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COMBUSTOR NOISE MEASUREMENT, VOLUME 3 Final
Report (Avco Lycoming Div.) 194 p
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FINAL REPORT

VOLUME III

YF 102 IN-DUCT COMBUSTOR NOISE MEASUREMENT

by

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prepared for

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NOVEMBER 1977

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Cleveland, Ohio**

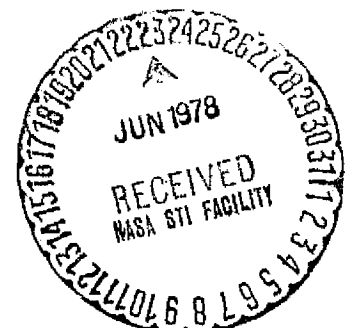


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APPENDIX C

0 TO 2000 HZ. NARROW BAND PRESSURE LEVEL SPECTRA (Probes 1 through 6)

Group I (Table I)	Runs 2, 3, 6A, 6B, 6C, 7 and 10
Group II (Table II)	Runs 1, 4, 5, 8, and 9
Group III (Table III)	Runs 19, 20, 22, 23, and 24
Group IV (Table IV)	Runs 14, 21, 15, 16, 17, 26, 27, 25, and 30
Group V (Table V)	Runs 12, 13, 28, and 29
Group VI (Table VI)	Runs 18 and 11

METRIC CONVERSION TABLE

PRESSURE

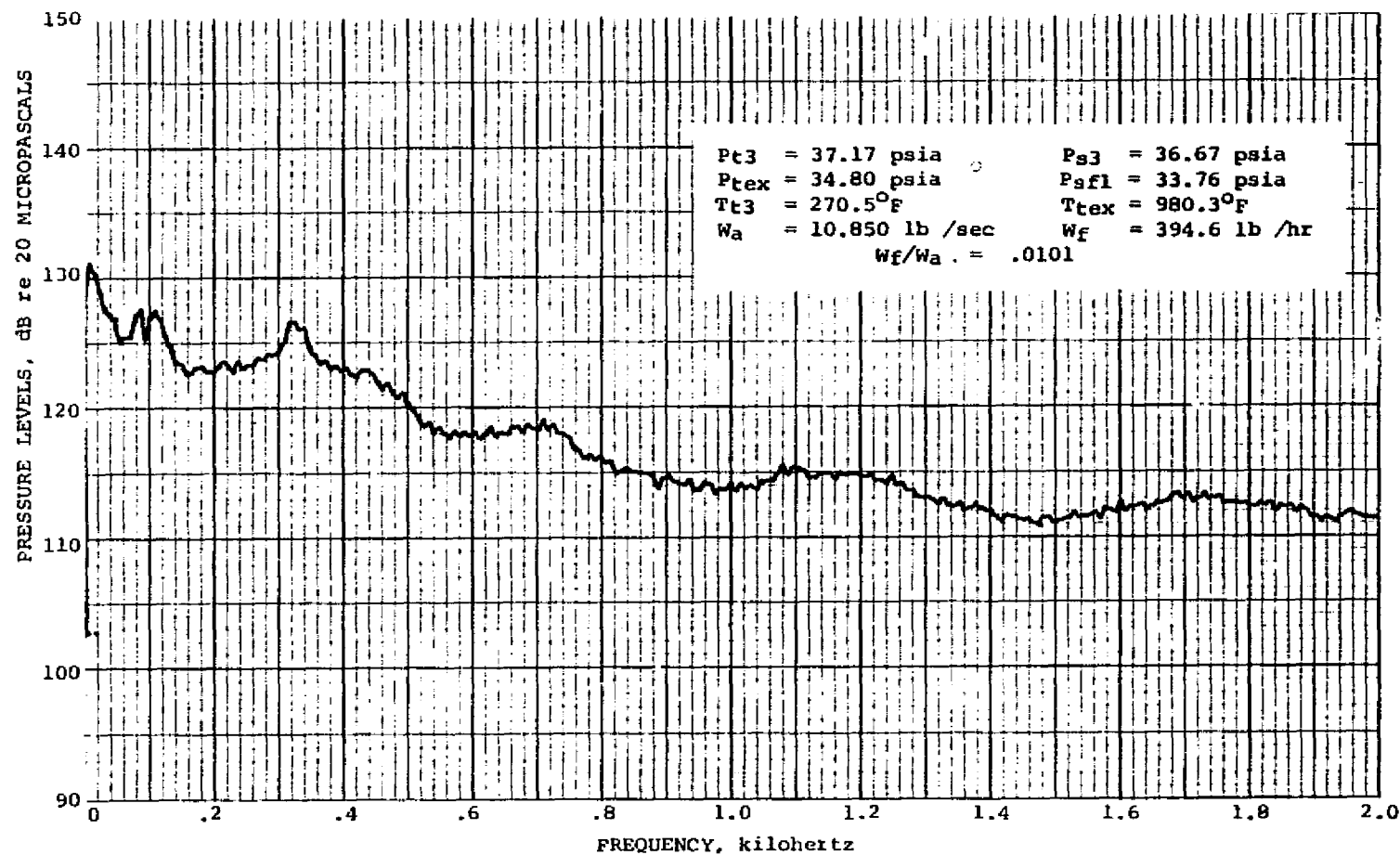
Multiply the pressure in U. S. customary units (pounds per square inch psi) by 6.8947 to obtain the pressure in International System of Units (kilopascals - kpa), e.g., 34.17 psia = $6.8947 \times 34.17 = 235.6$ kpa.

MASS

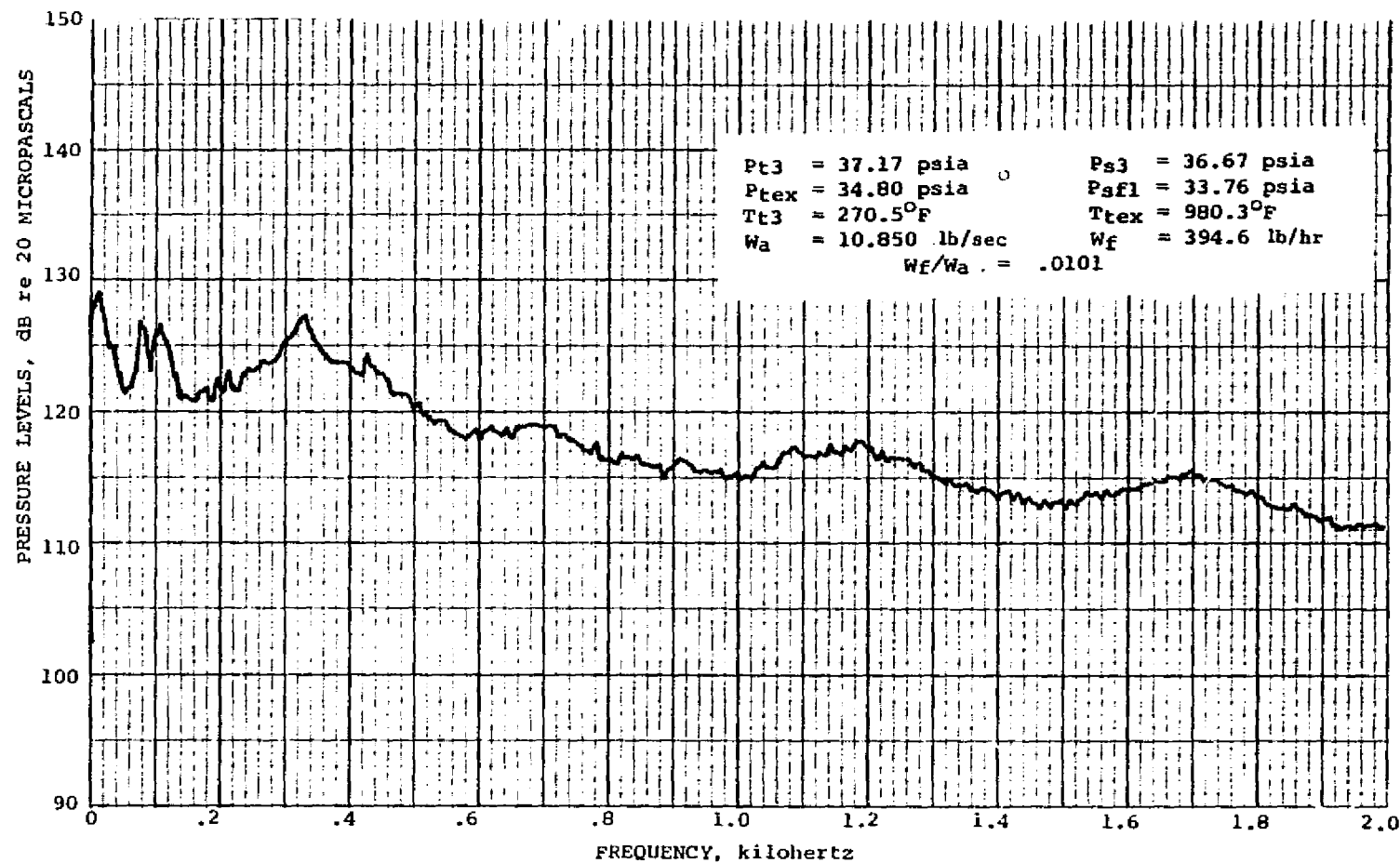
Multiply the mass in U. S. customary units (pounds - lb) by .45359 to obtain the mass in the International System of units (kg), e.g. 10.883 lb/sec = $.45359 \times 10.883 = 4.936$ kg/sec.

TEMPERATURE

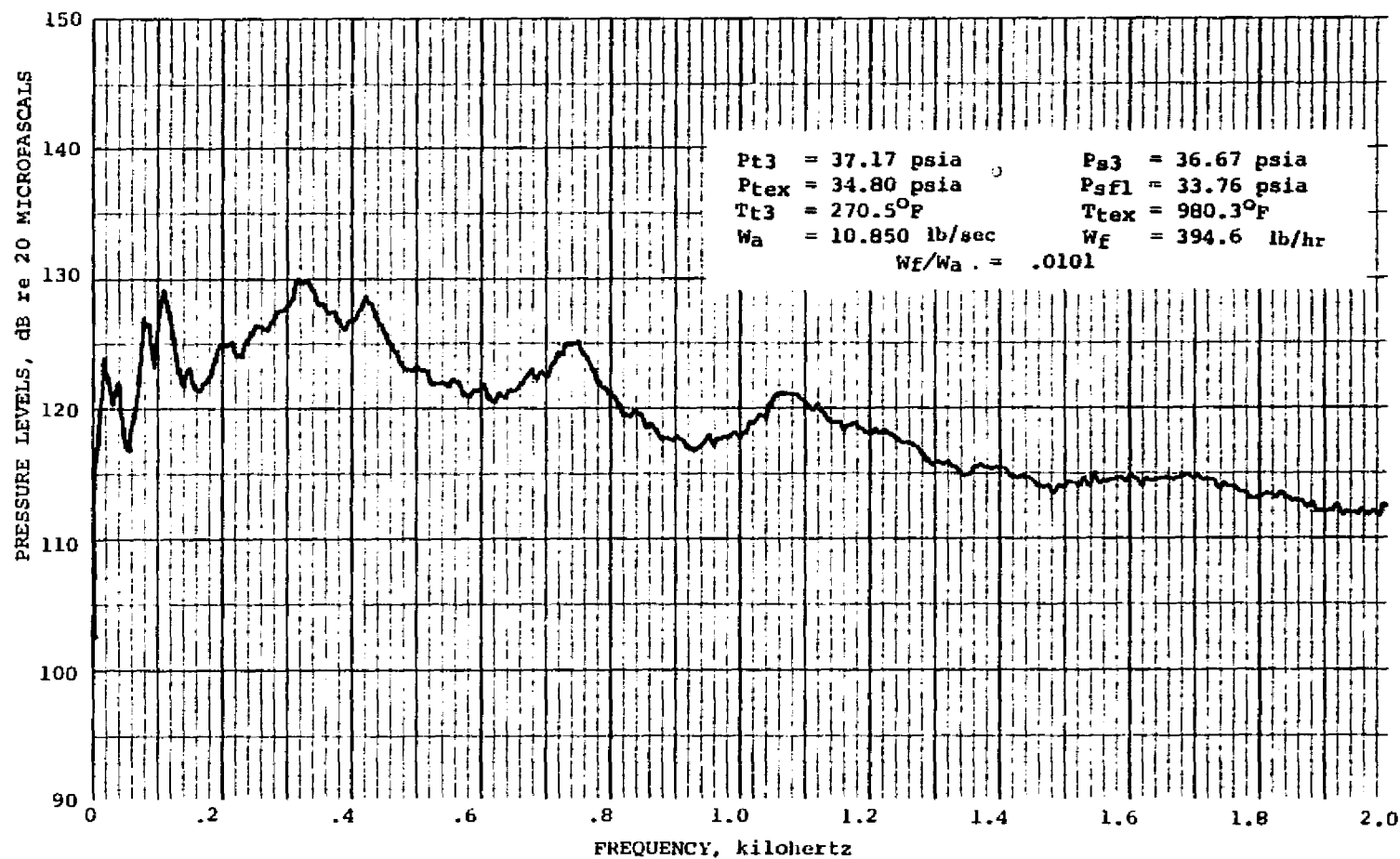
Increase the temperatures in U. S. customary units (Degrees Fahrenheit - °F) by 40, multiply by .55556 and decrease result by 40 to obtain the temperature in the International System of Units (Degrees Celsius - °C), e.g. $255.4^{\circ}\text{F} = .55556 \times (255.4 + 40) - 40 = 124.1^{\circ}\text{C}$.



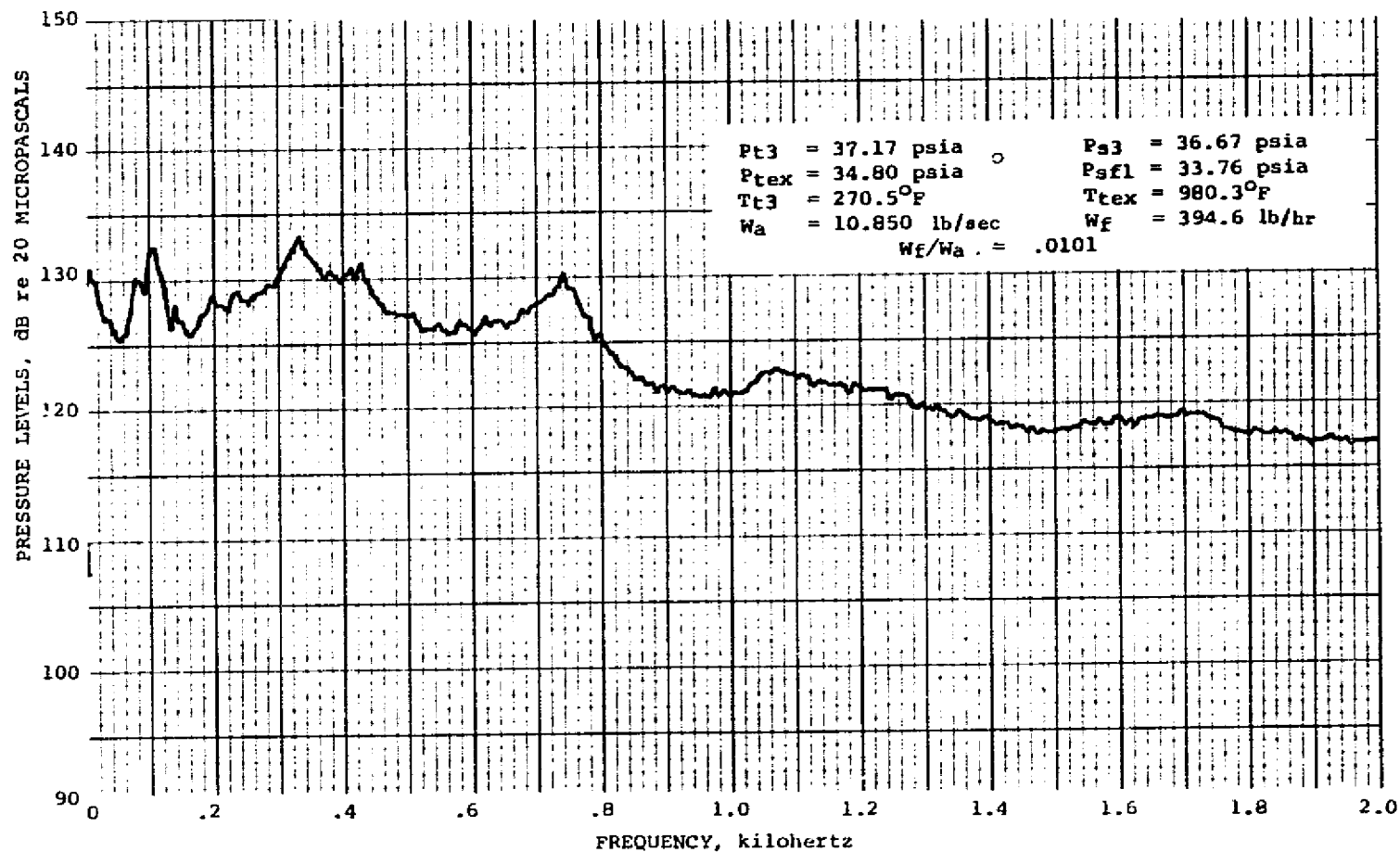
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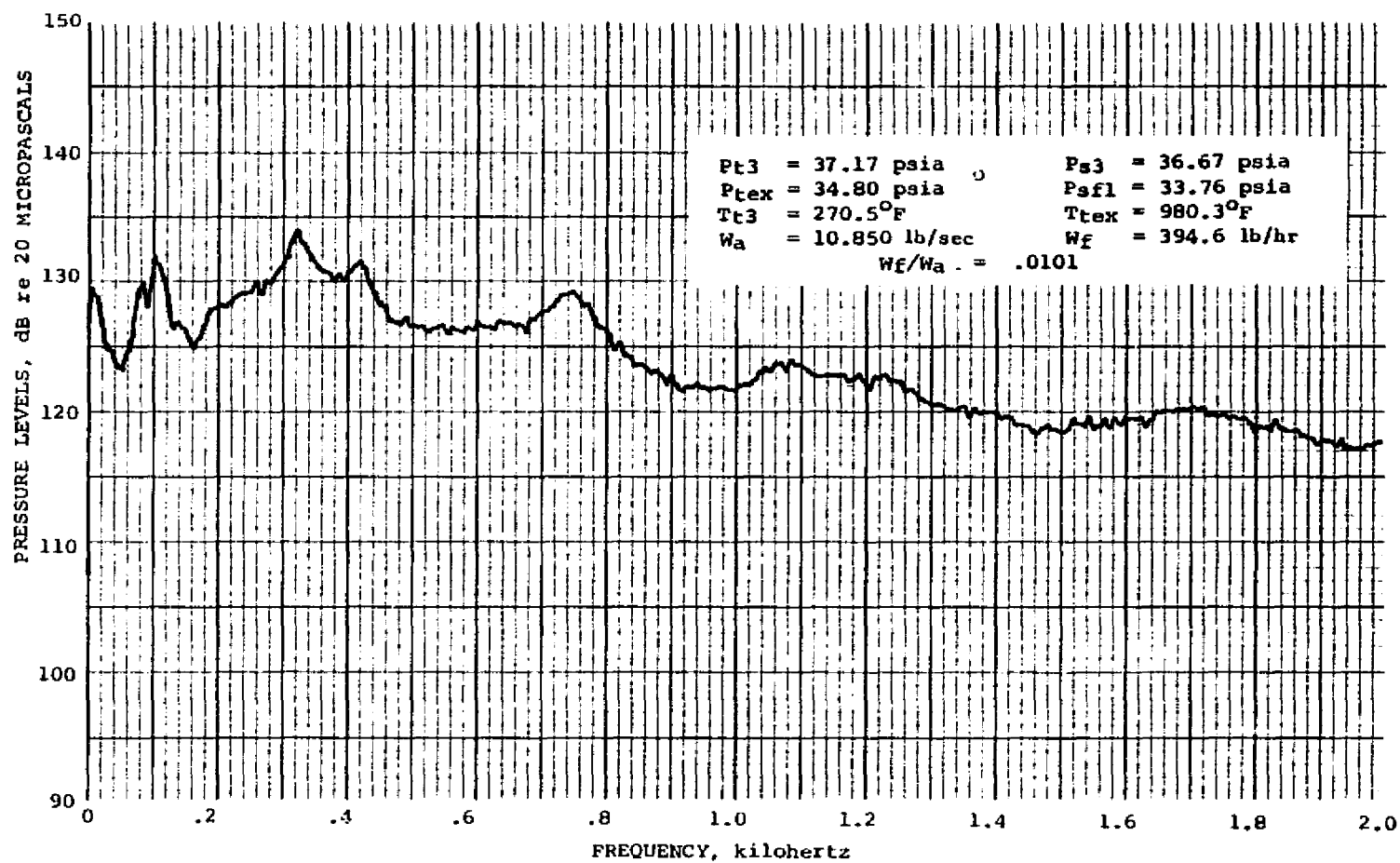
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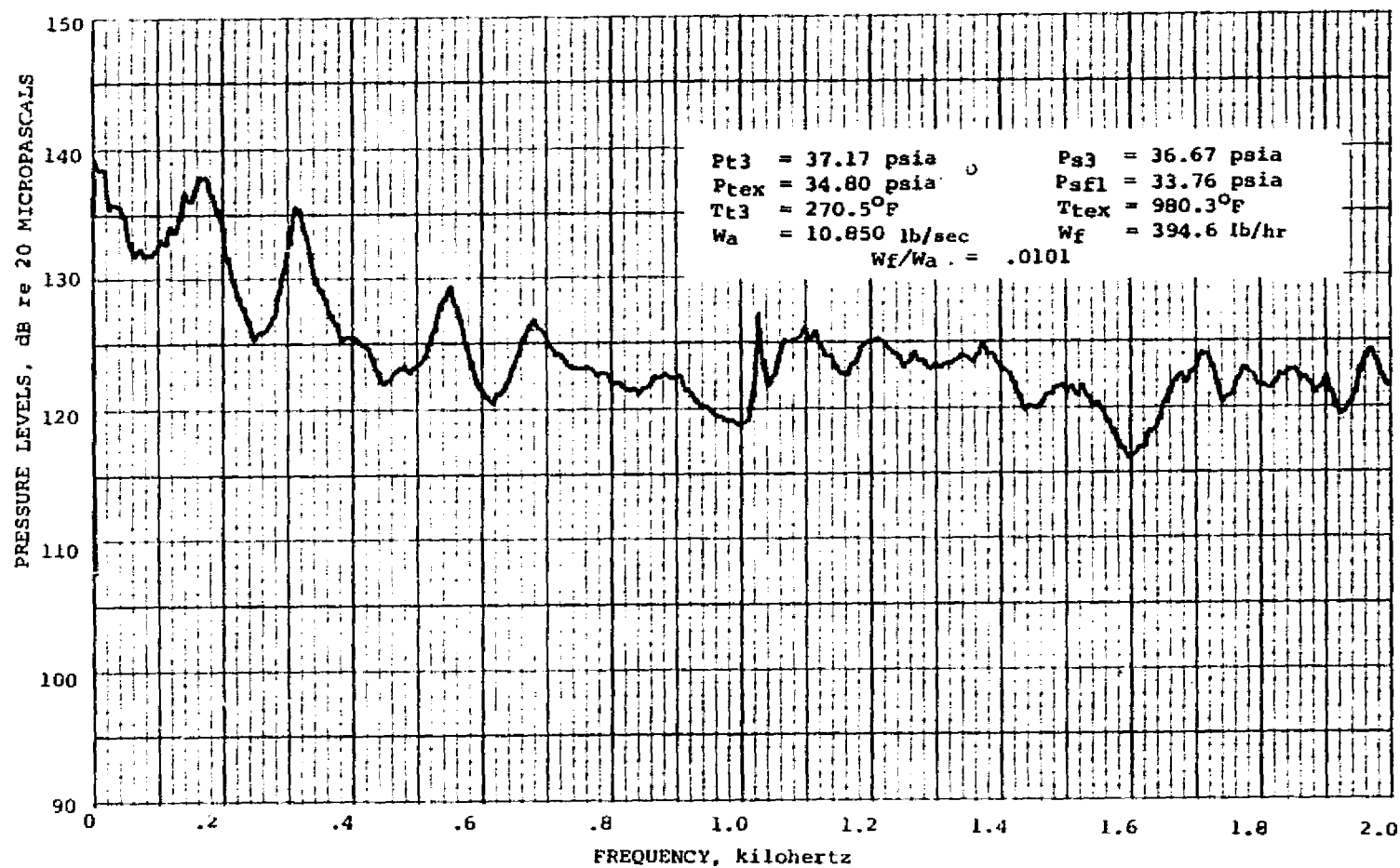
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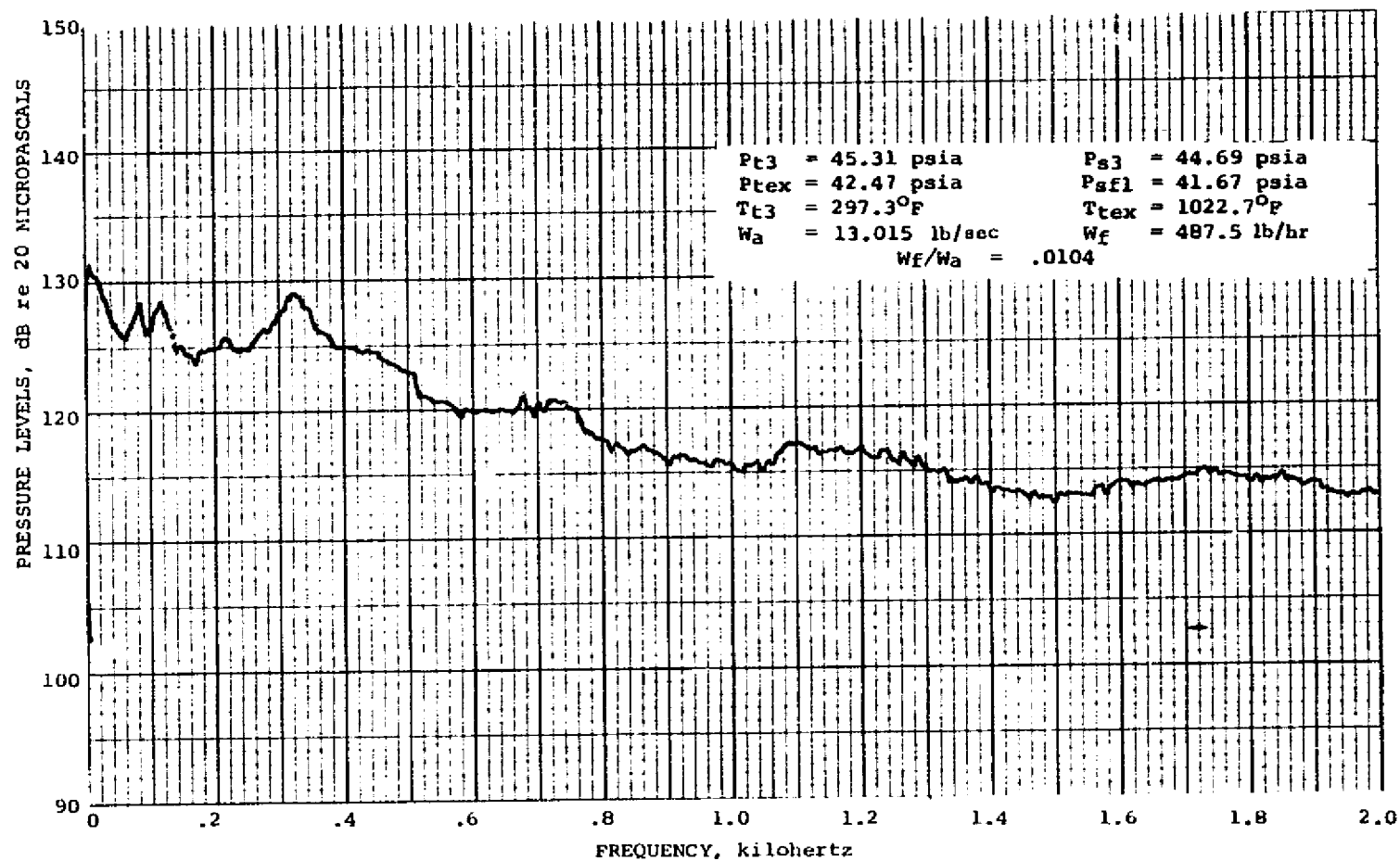
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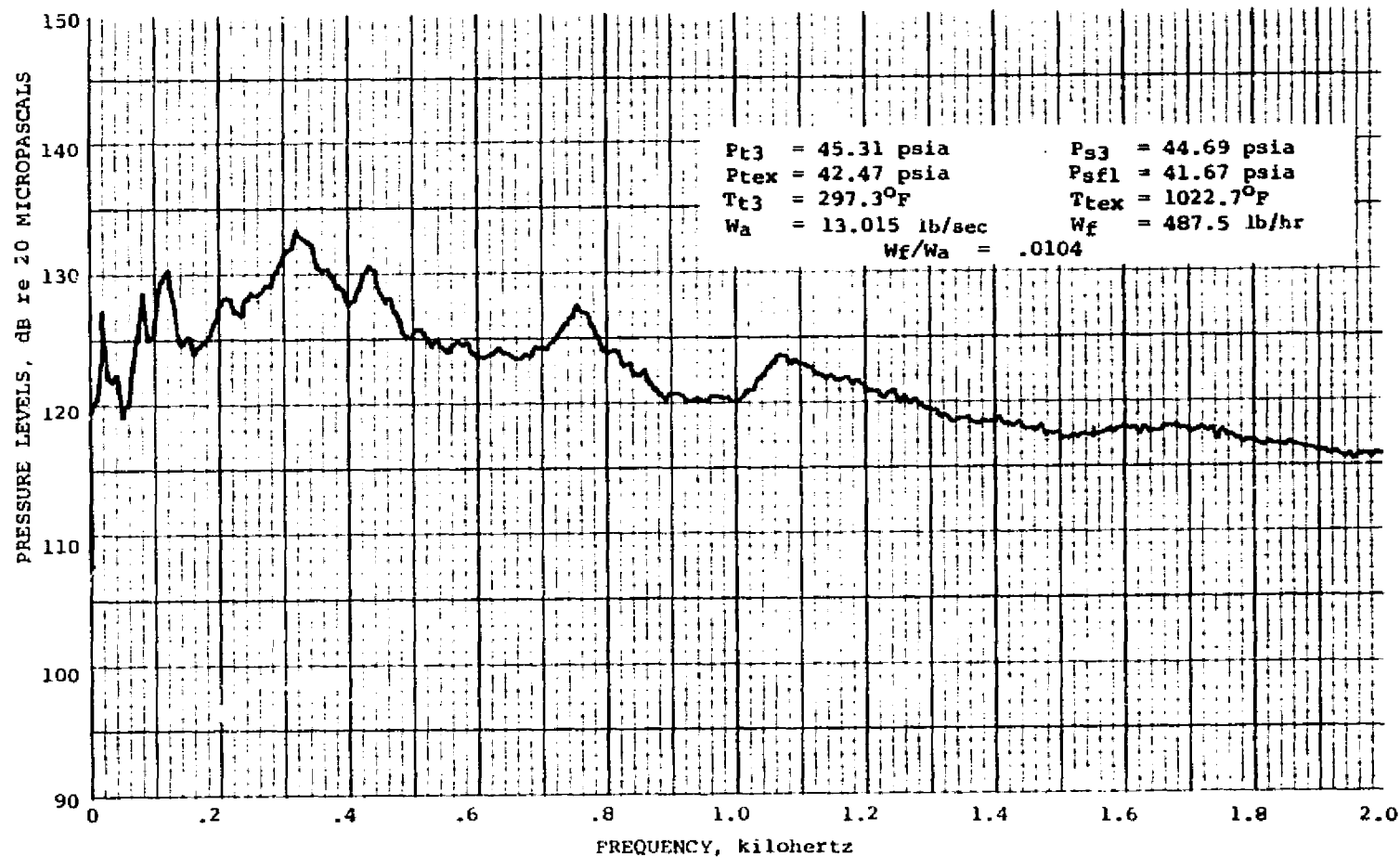
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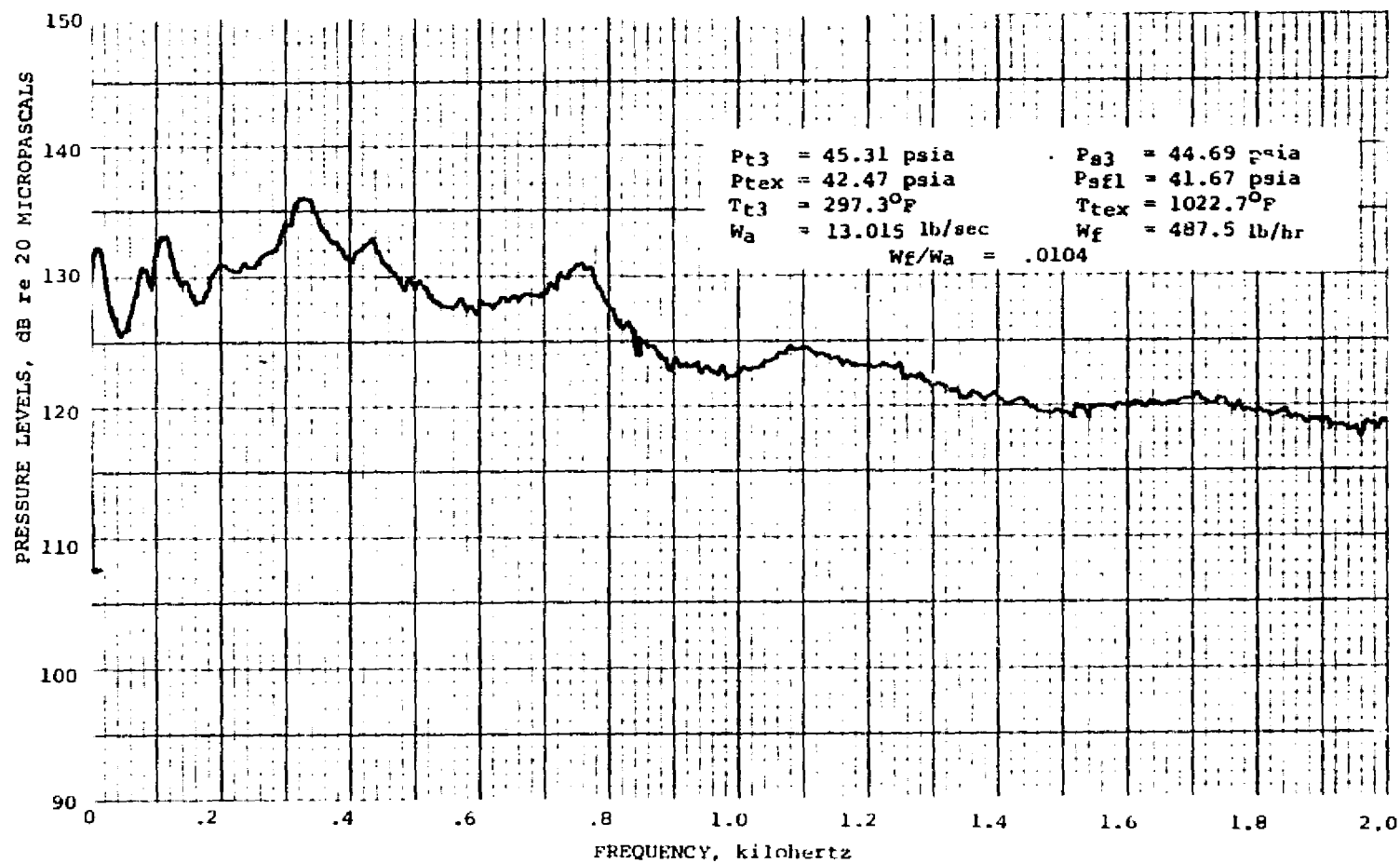
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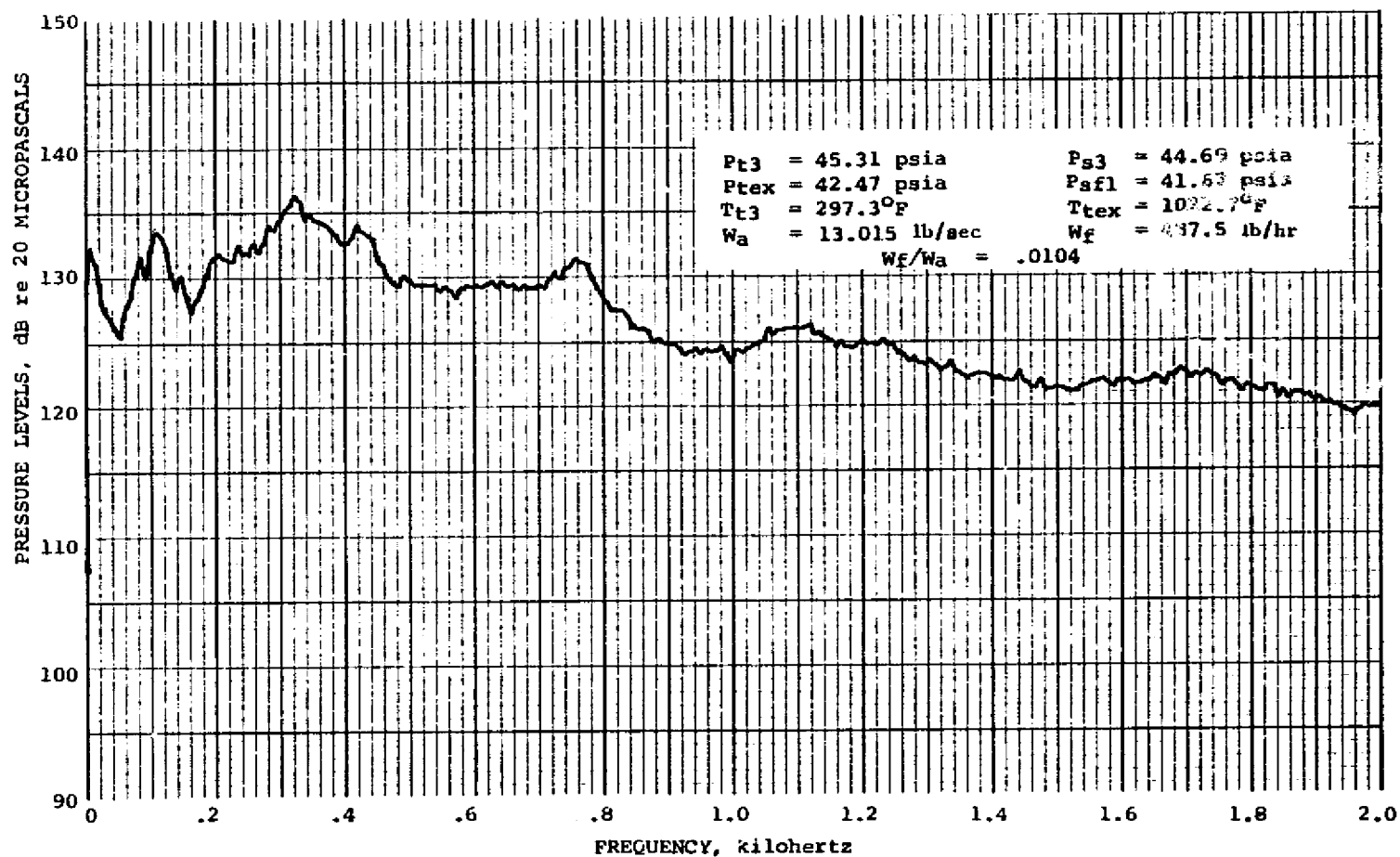
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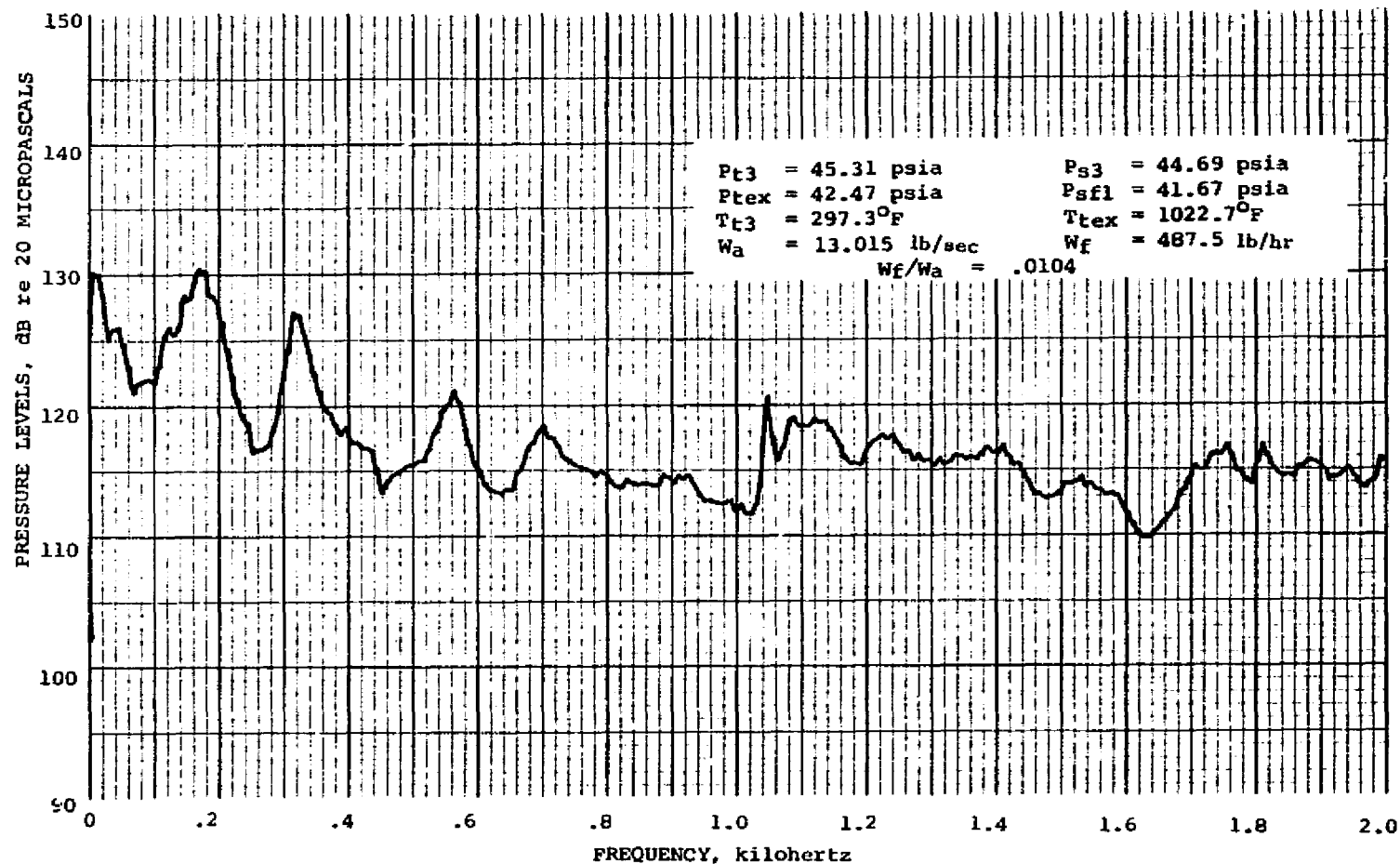
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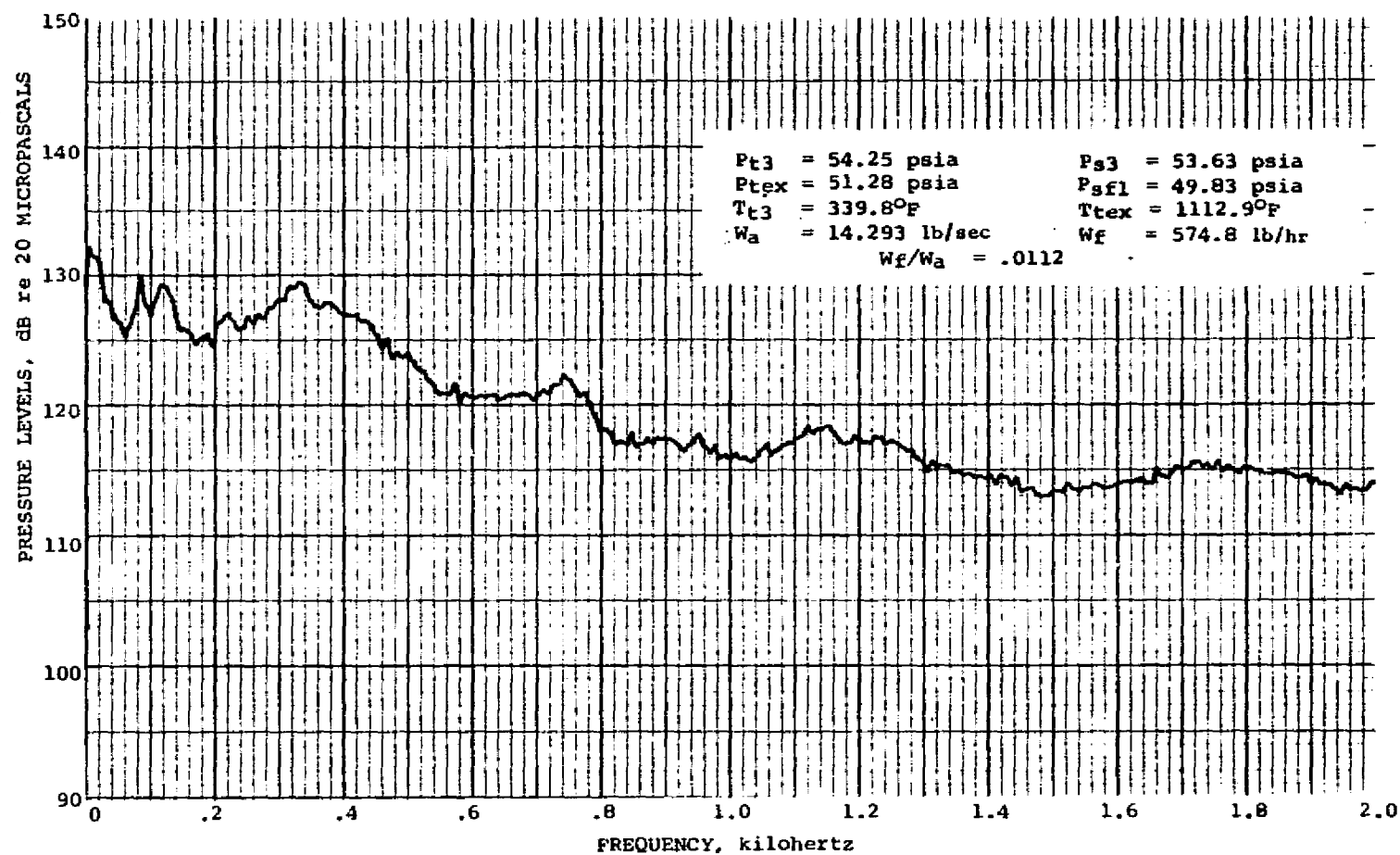
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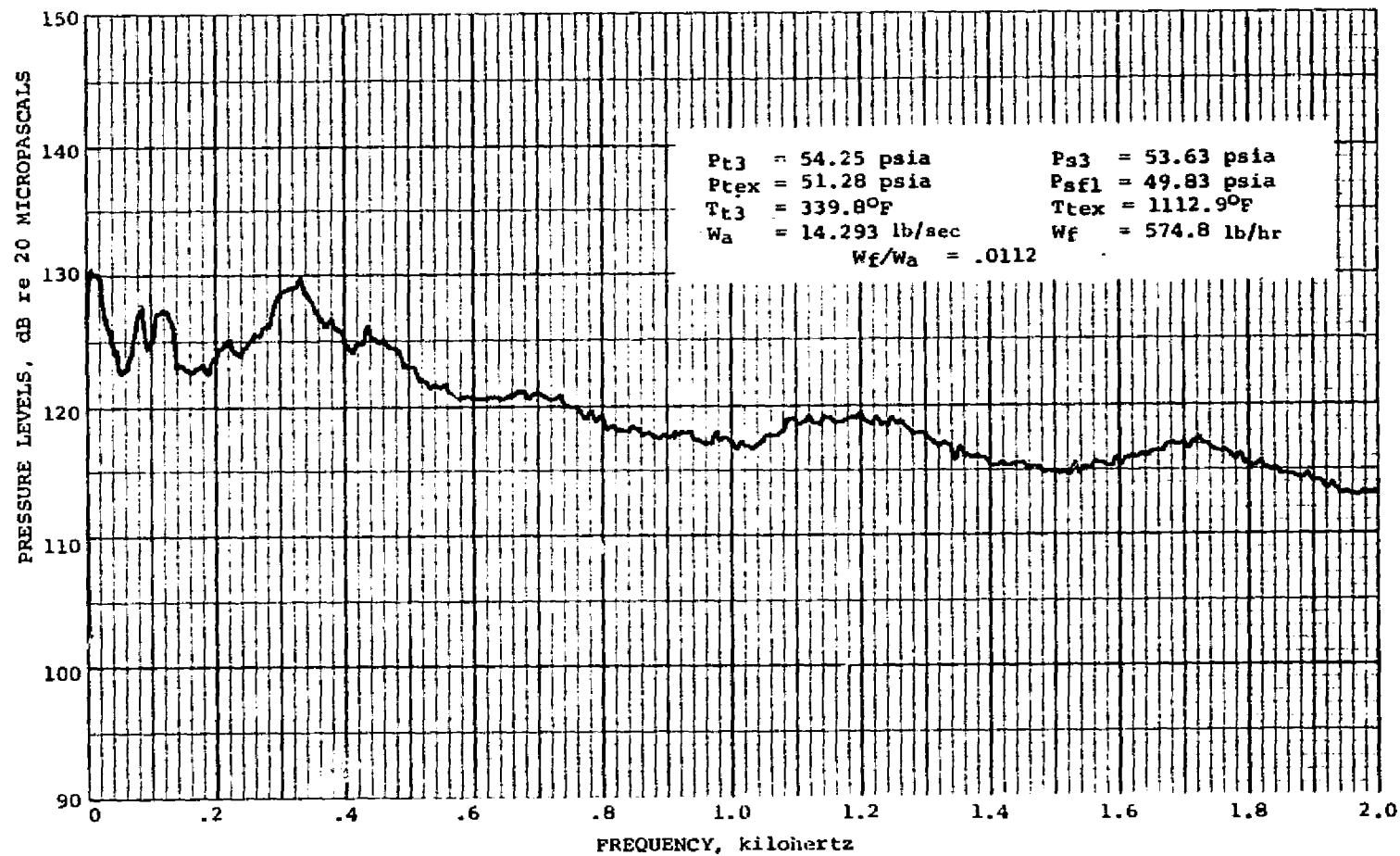
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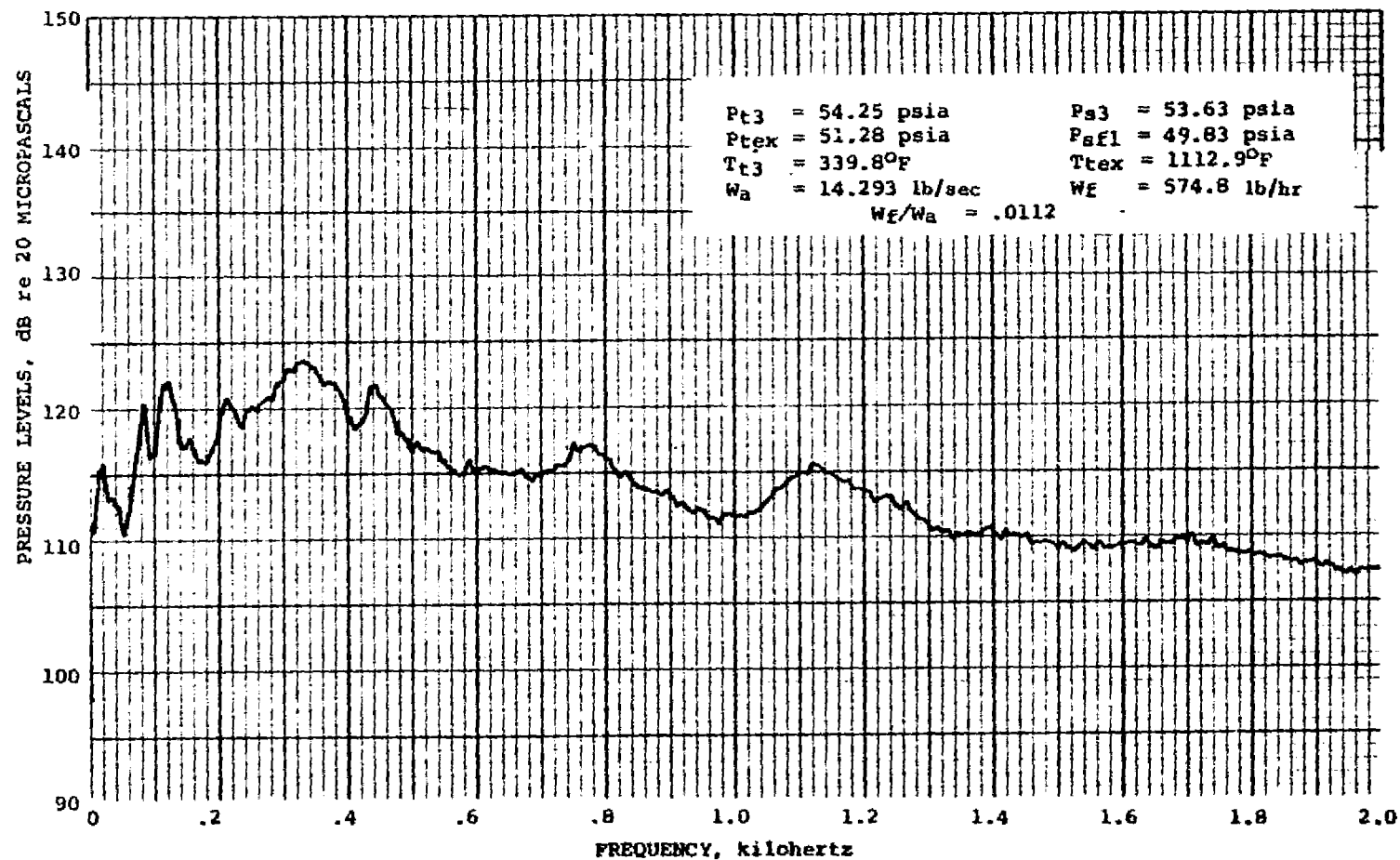
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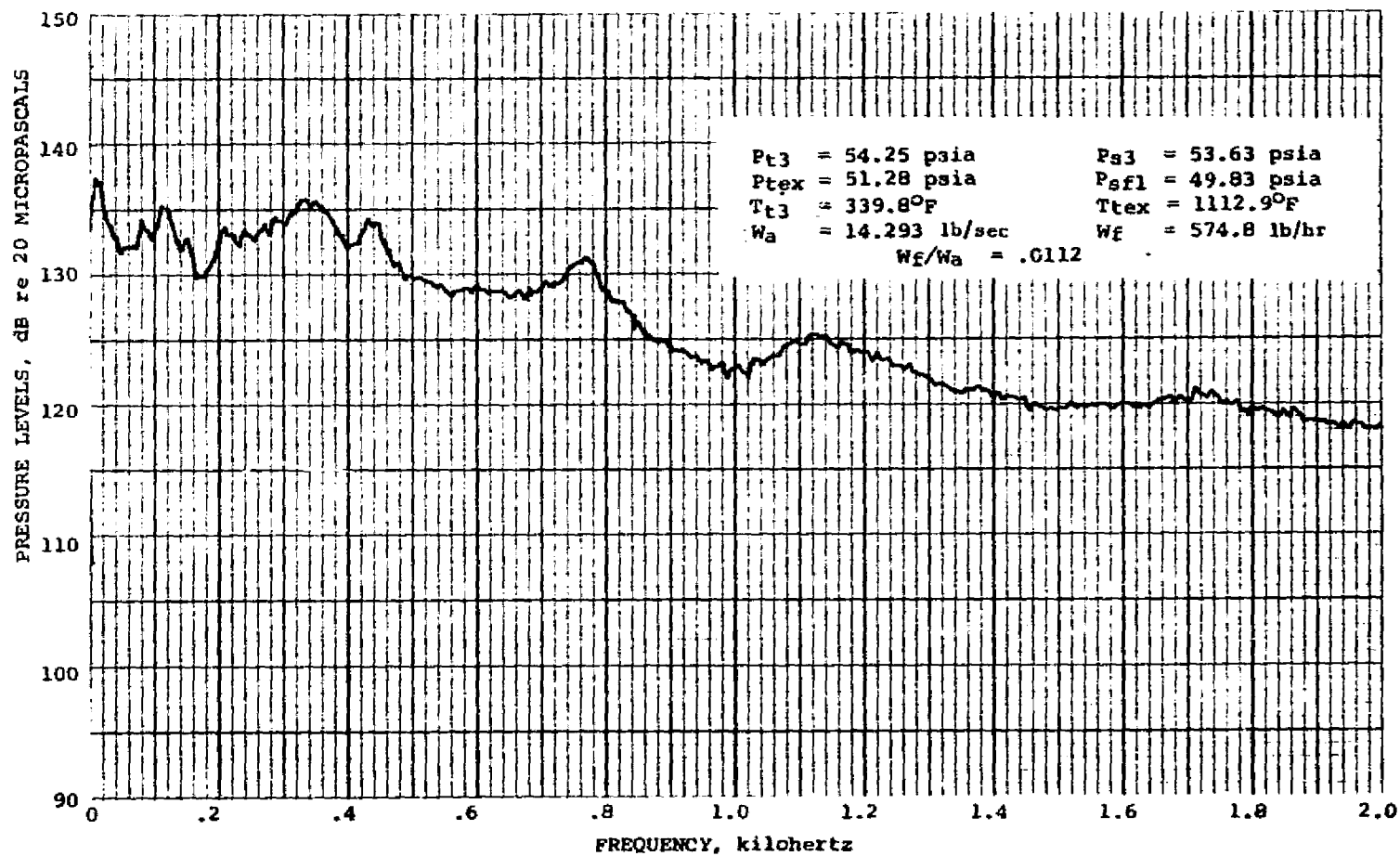
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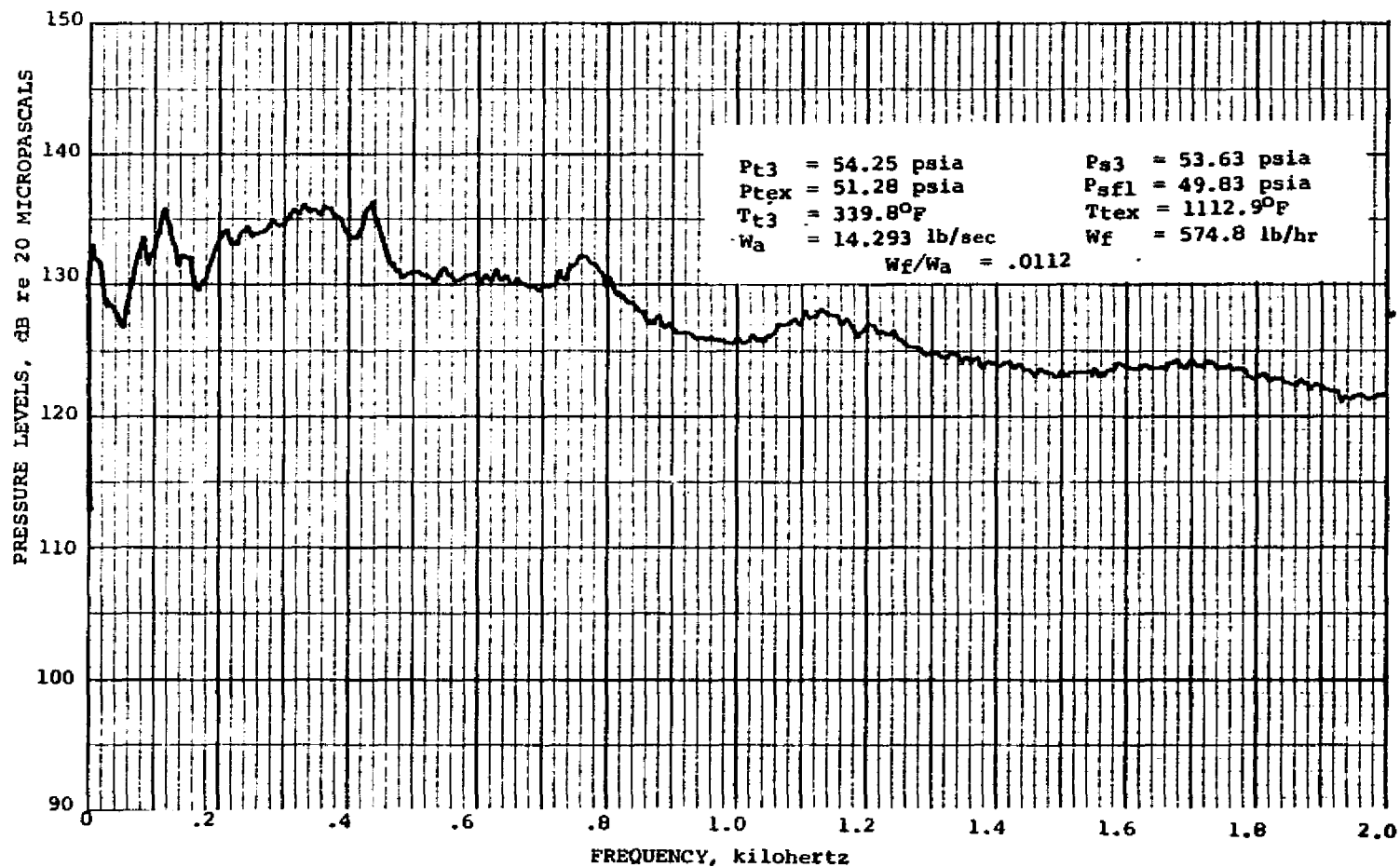
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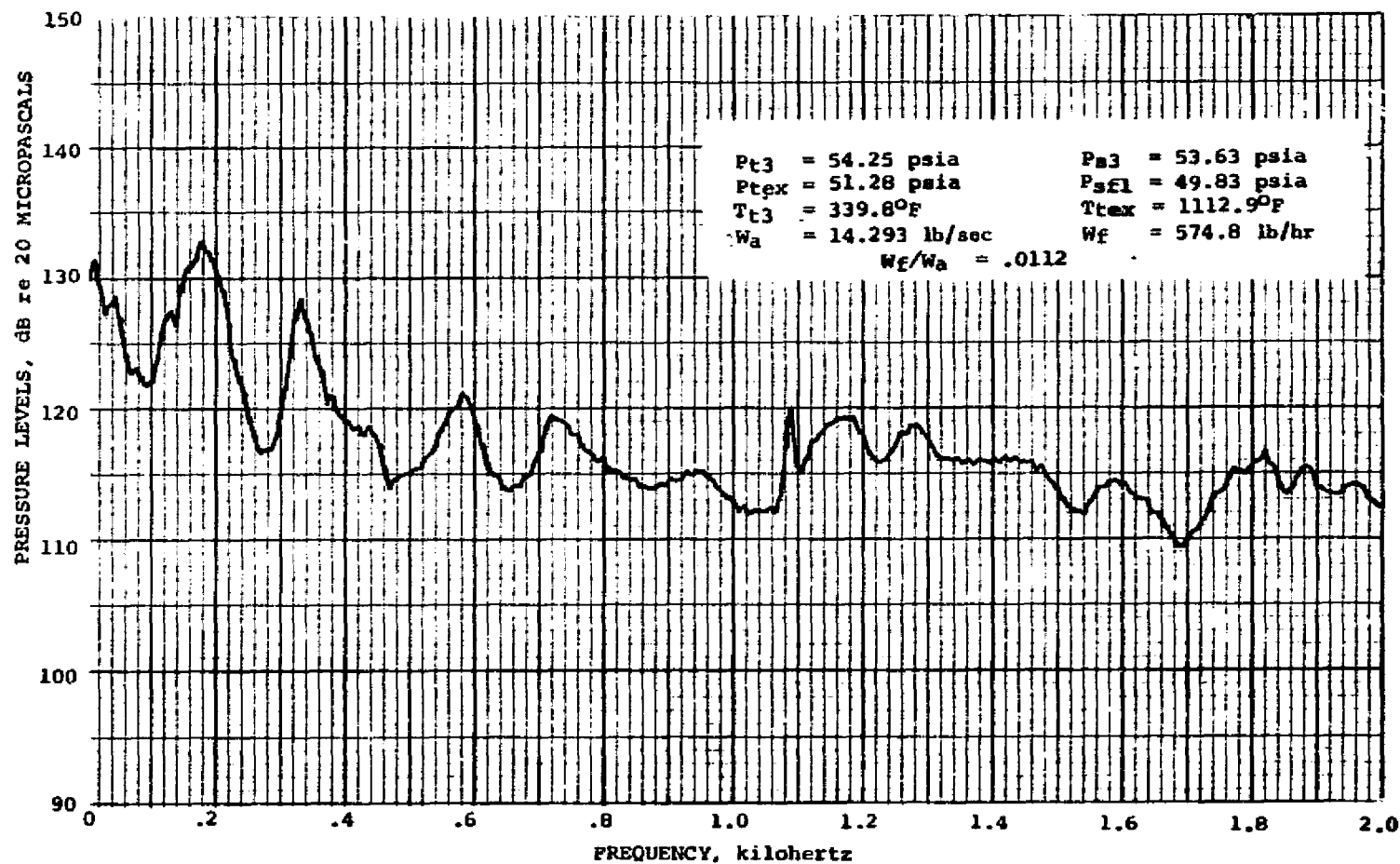
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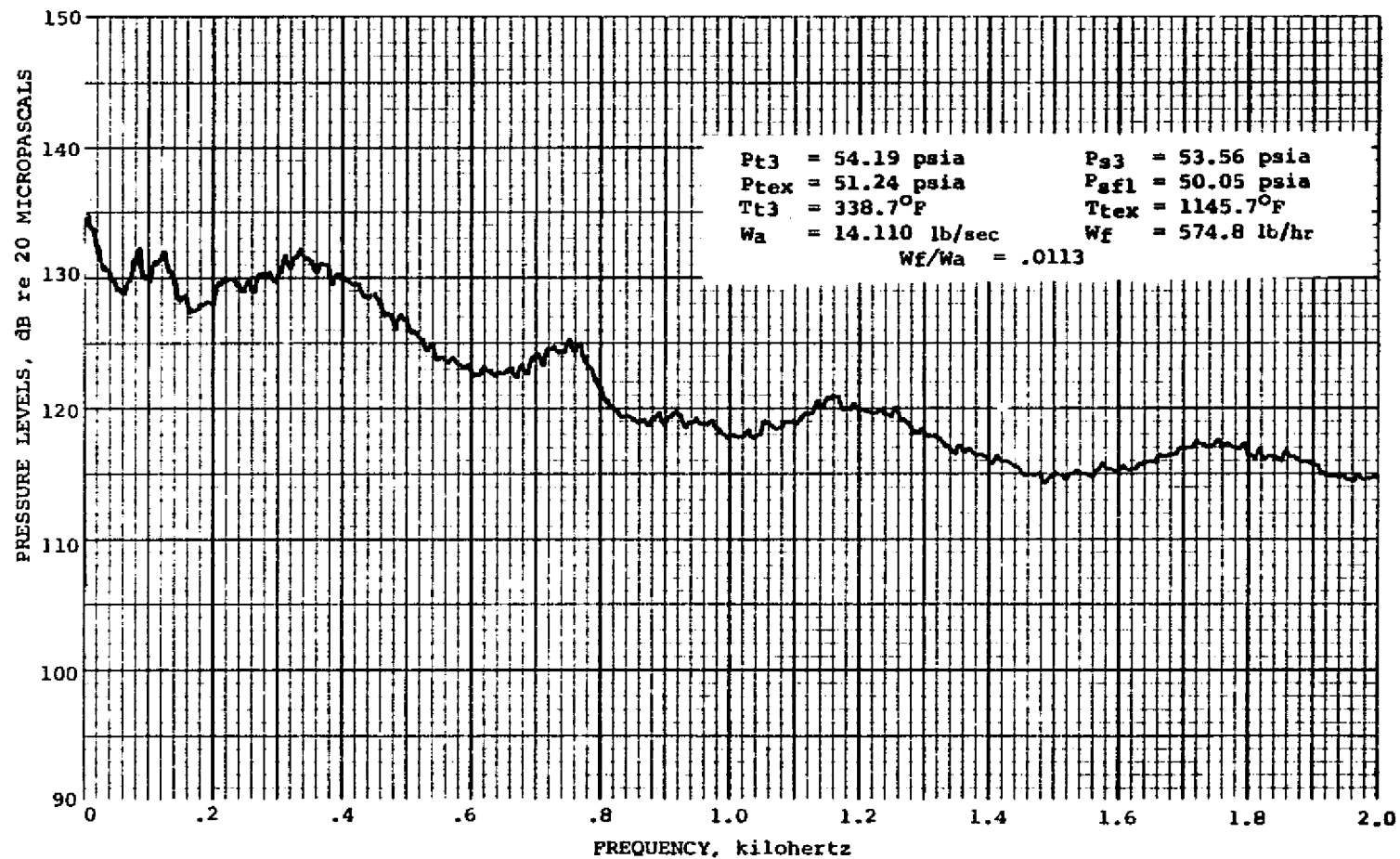
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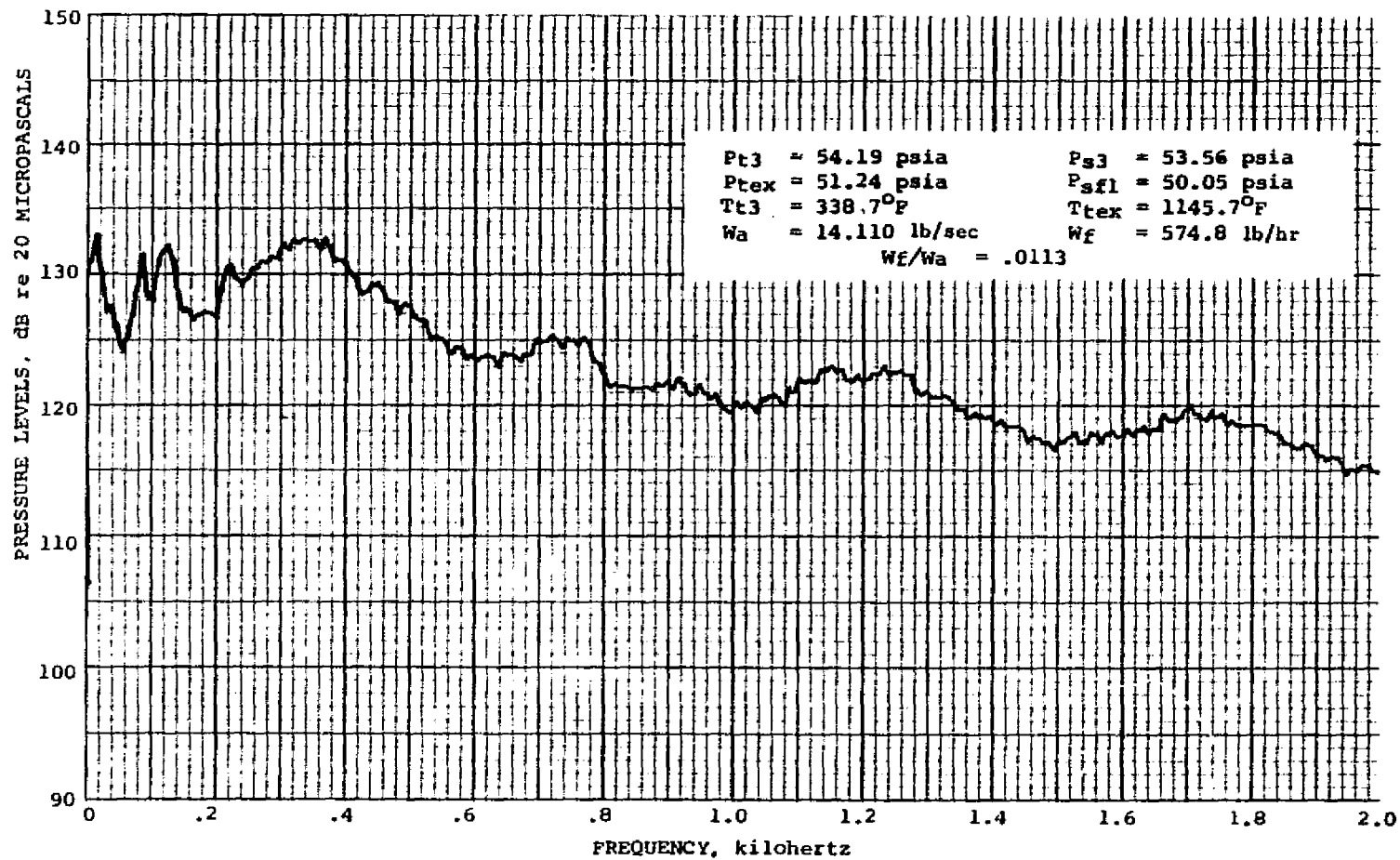
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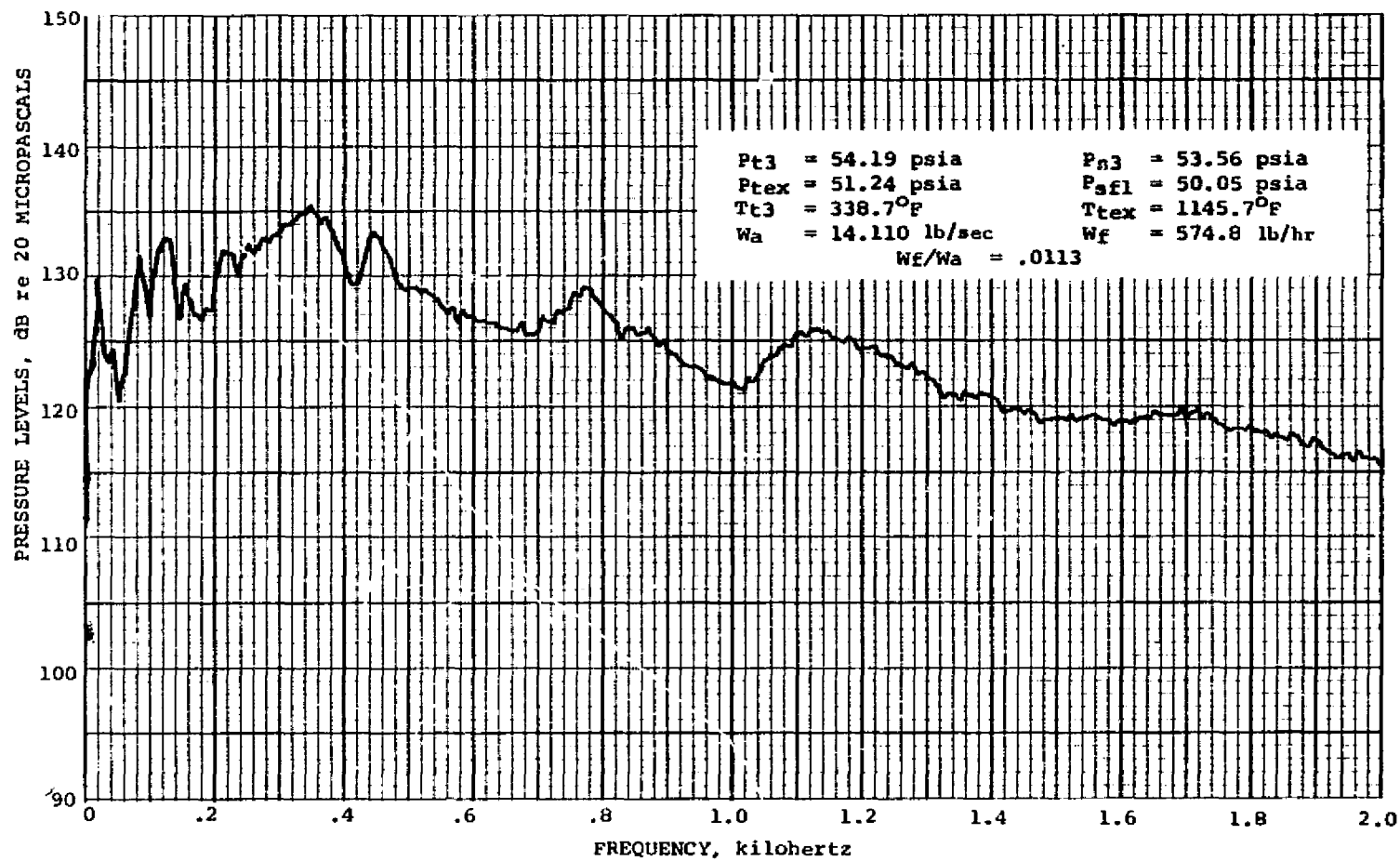
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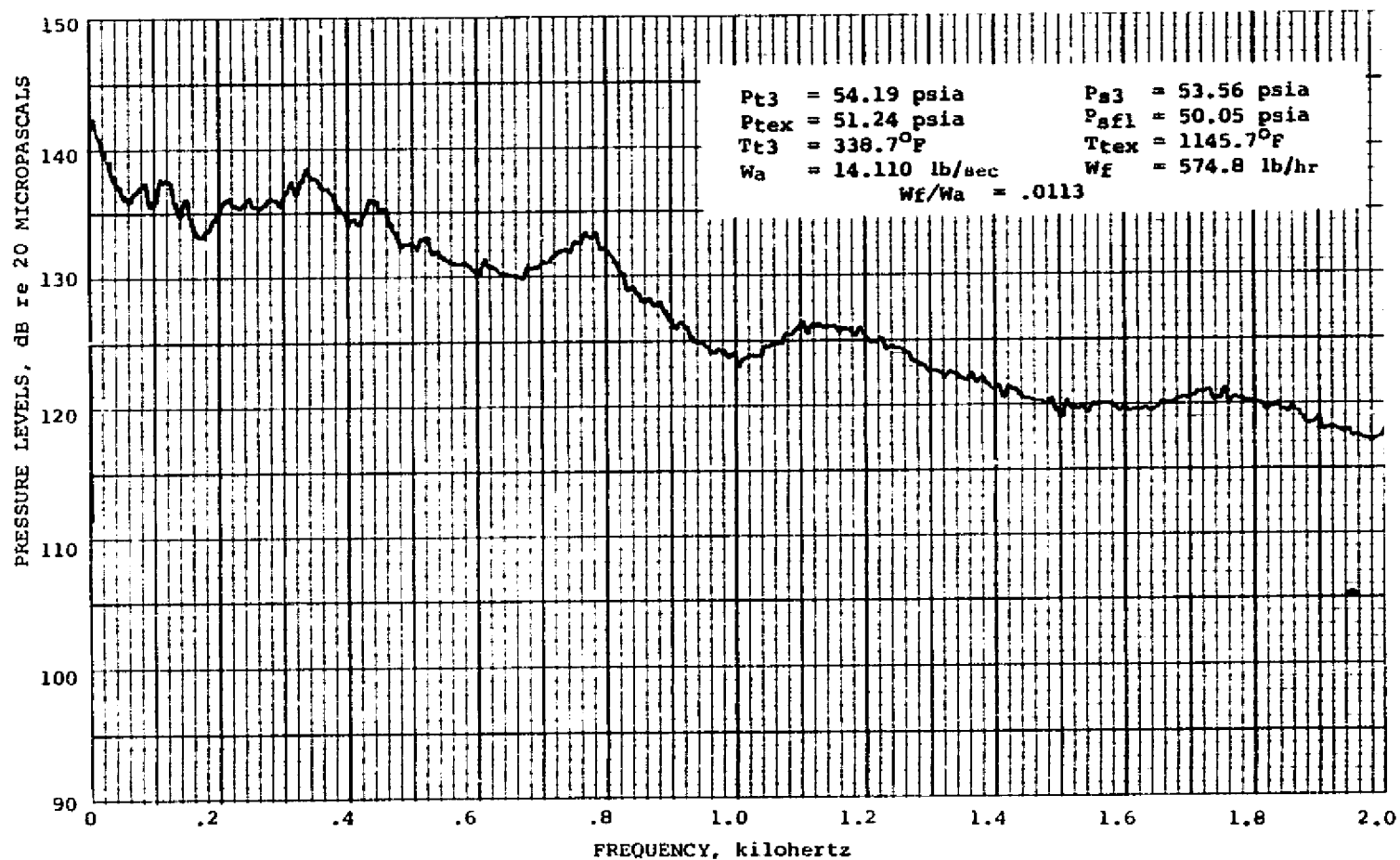
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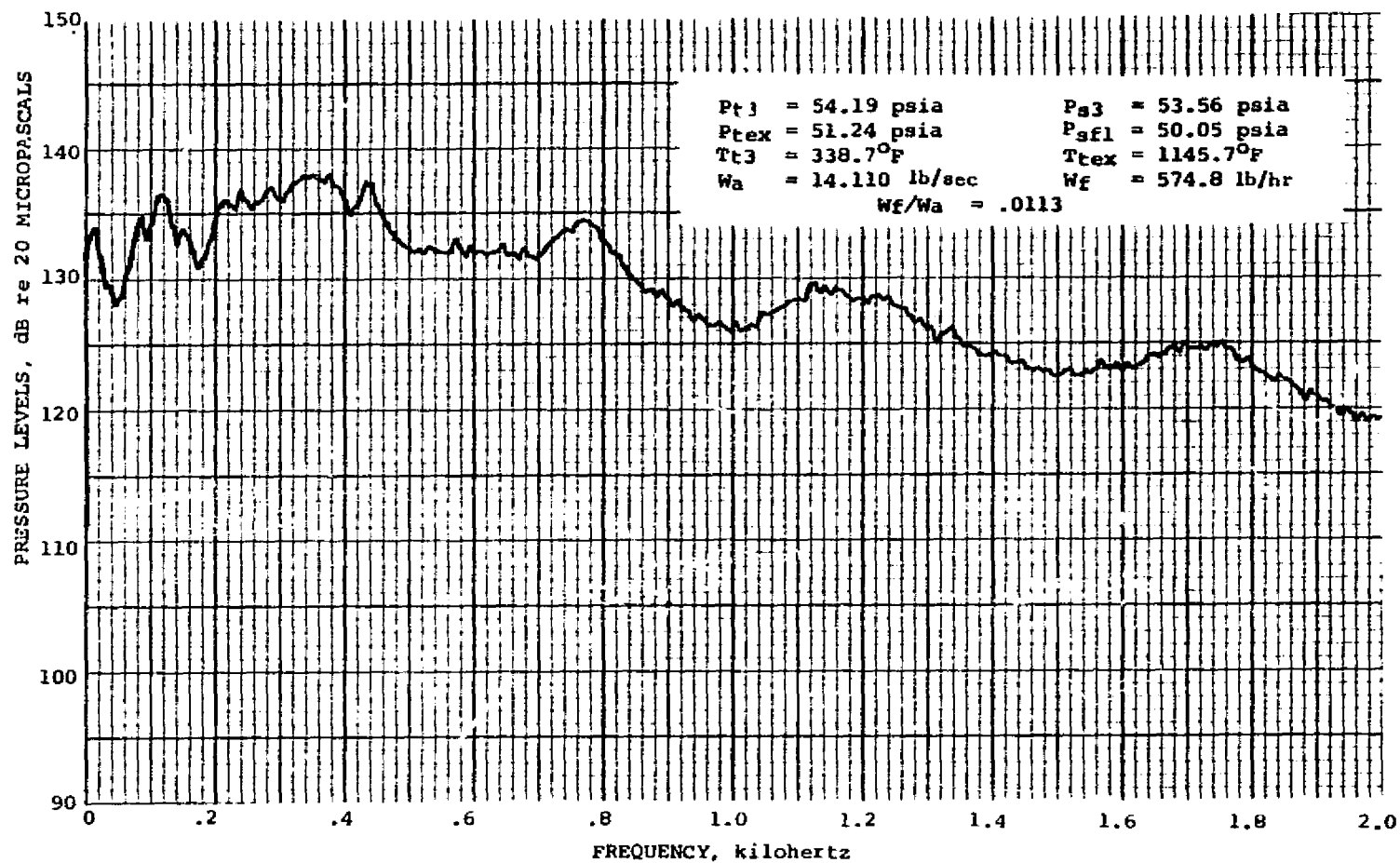
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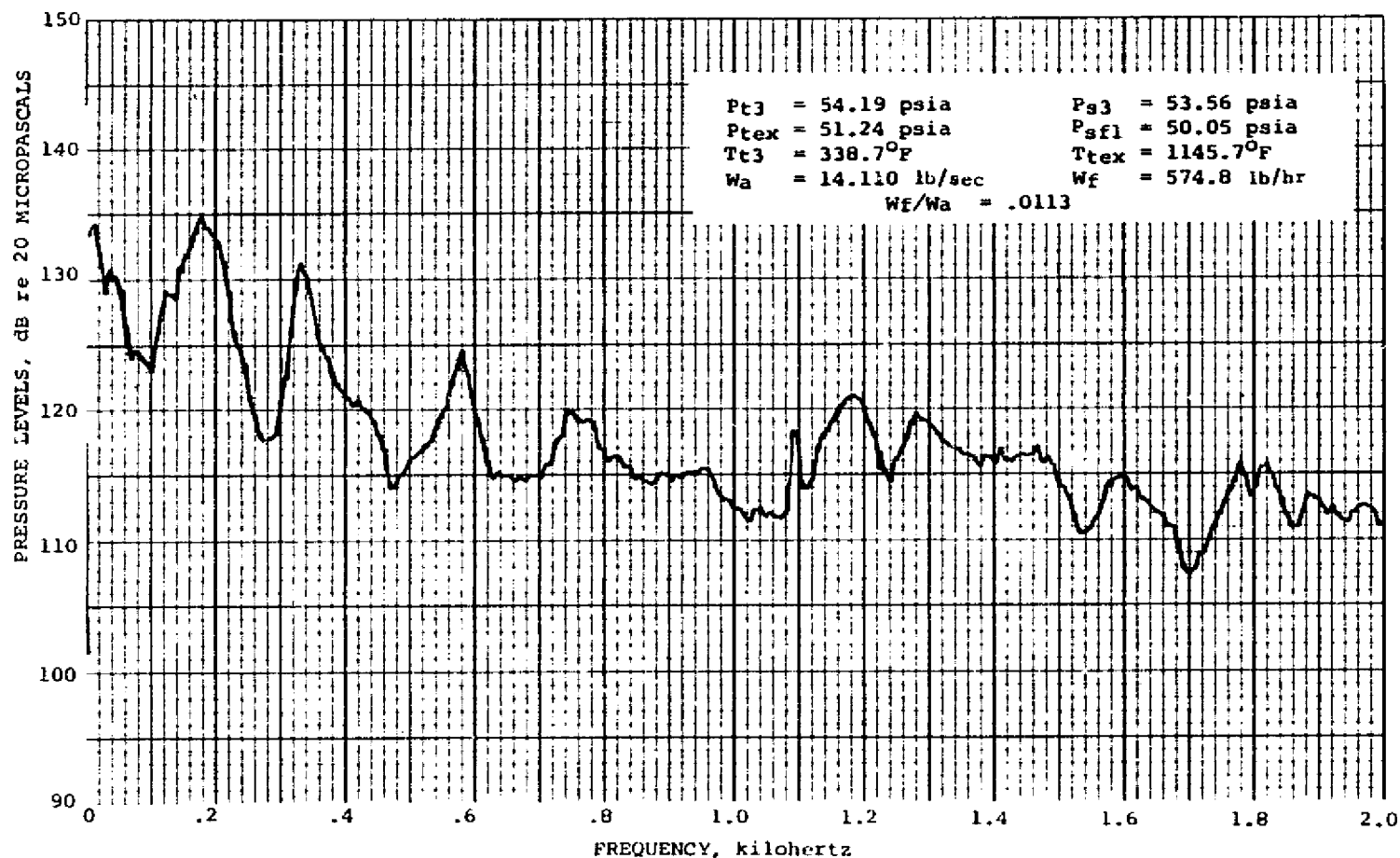
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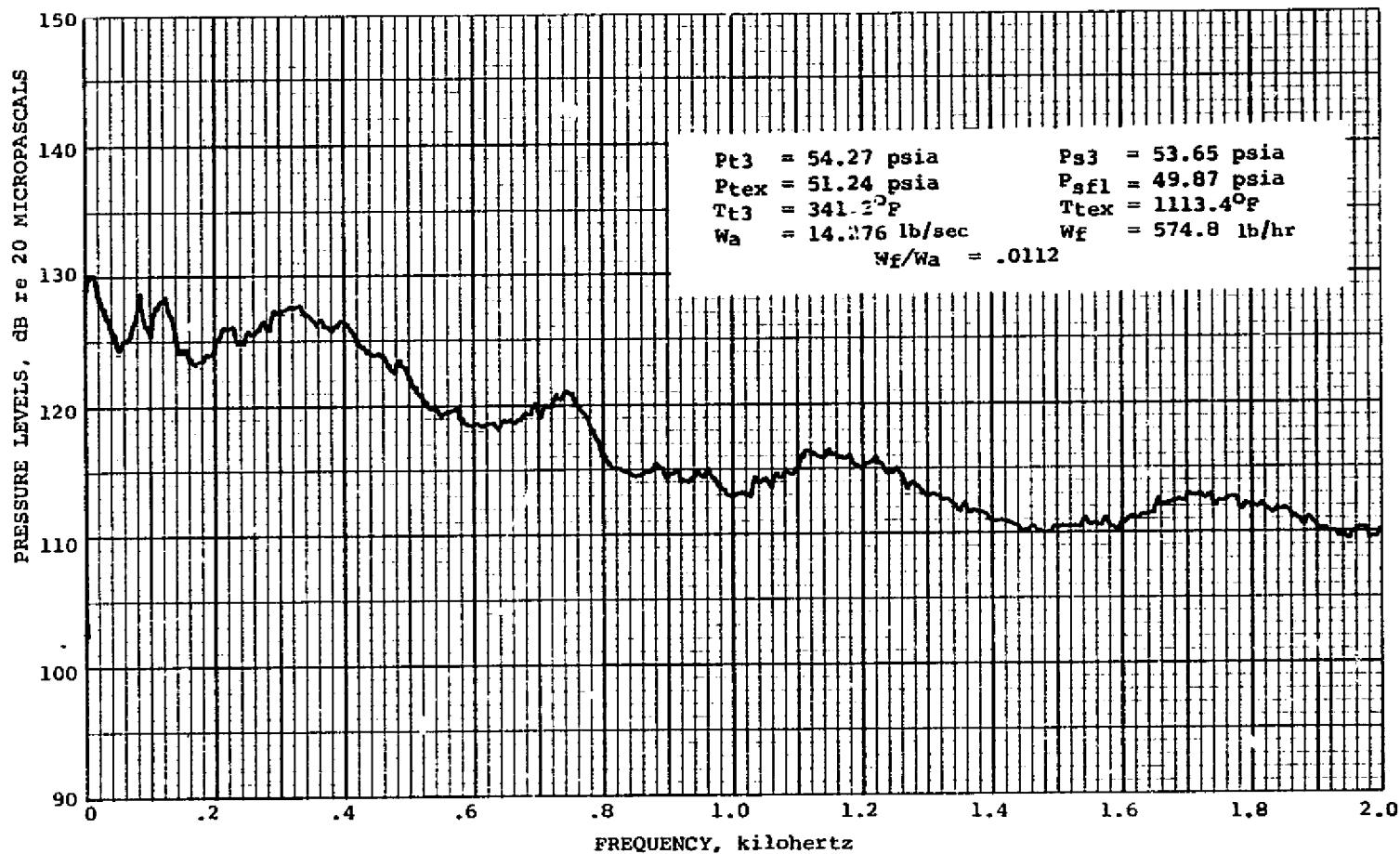
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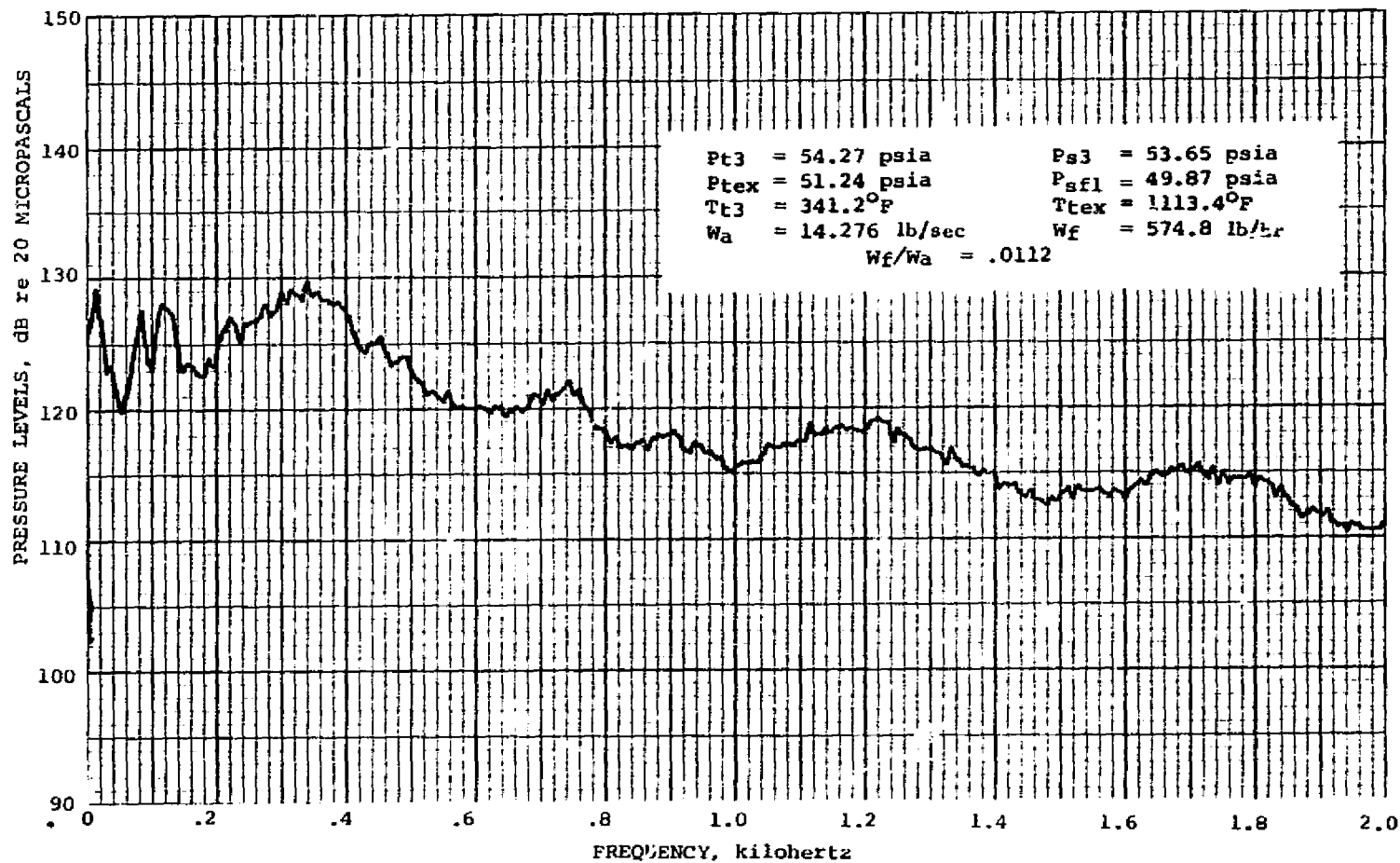
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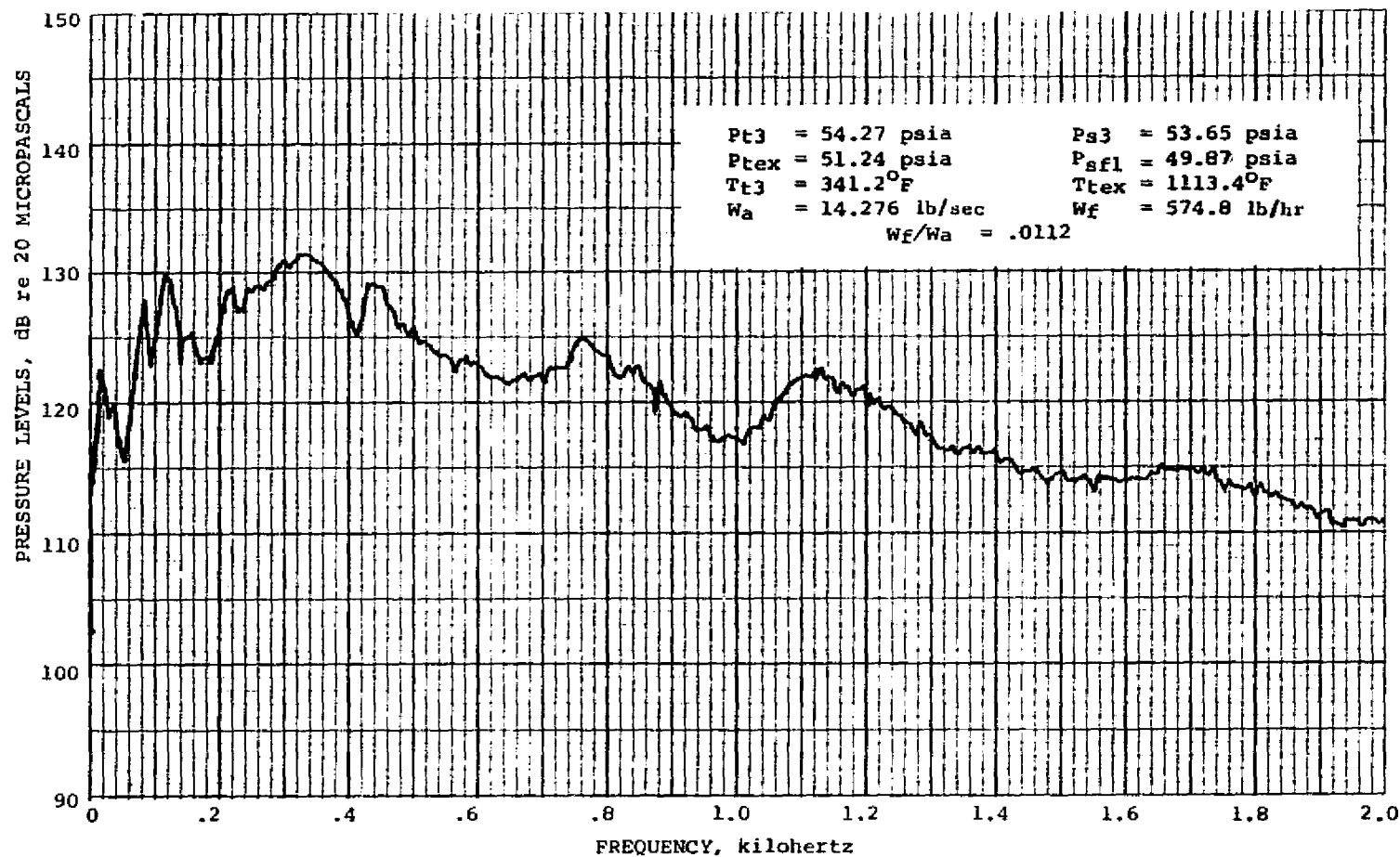
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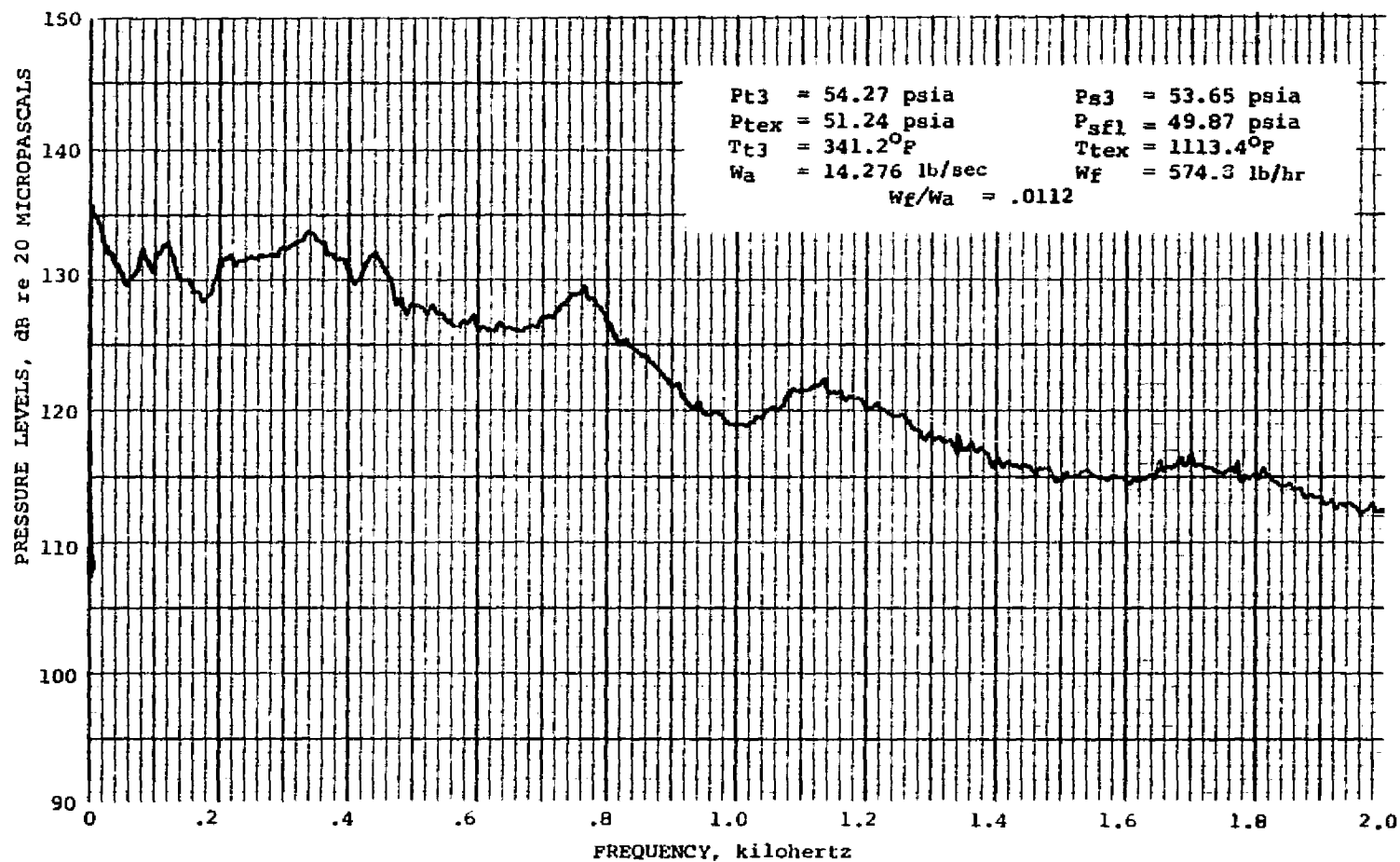
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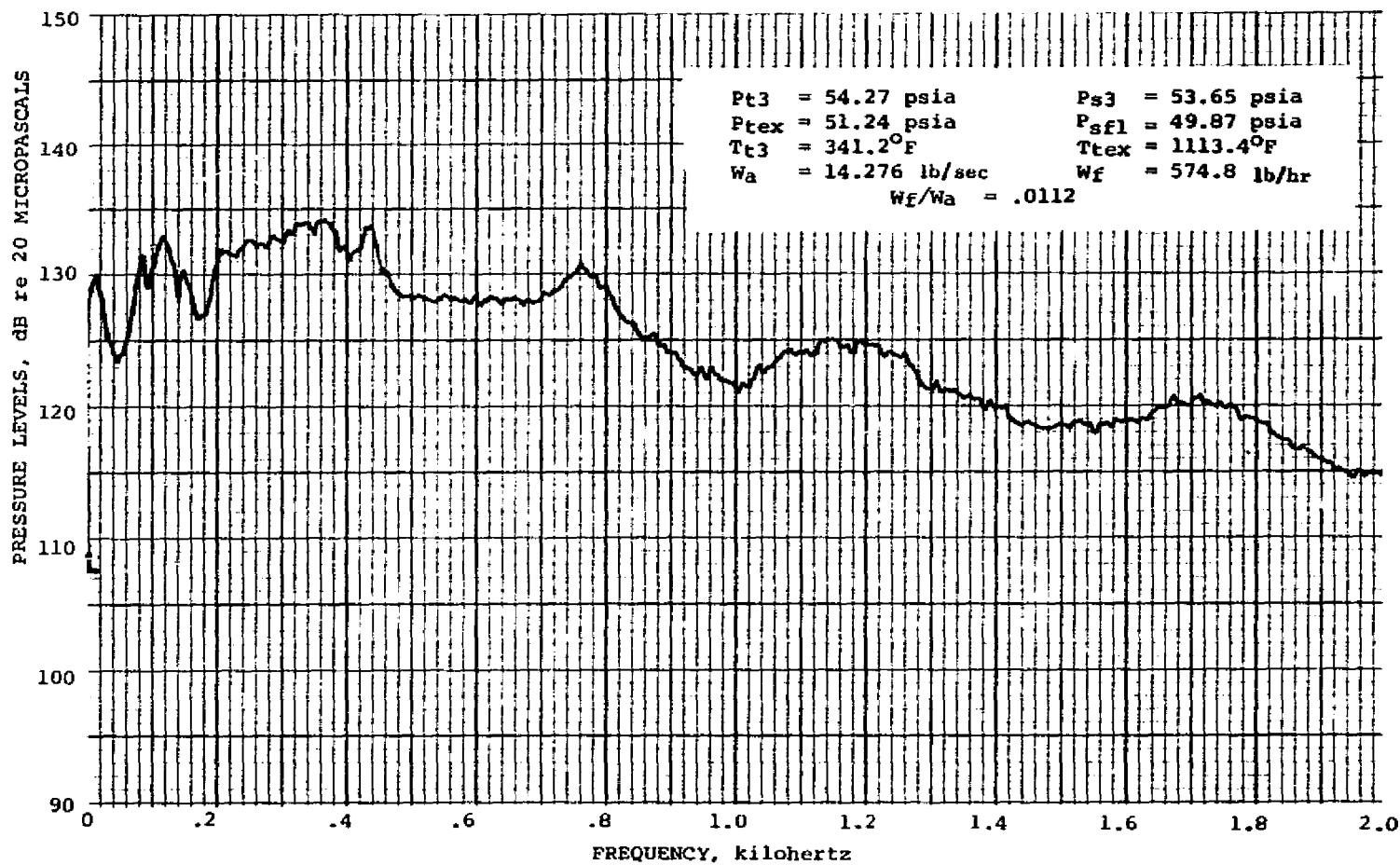
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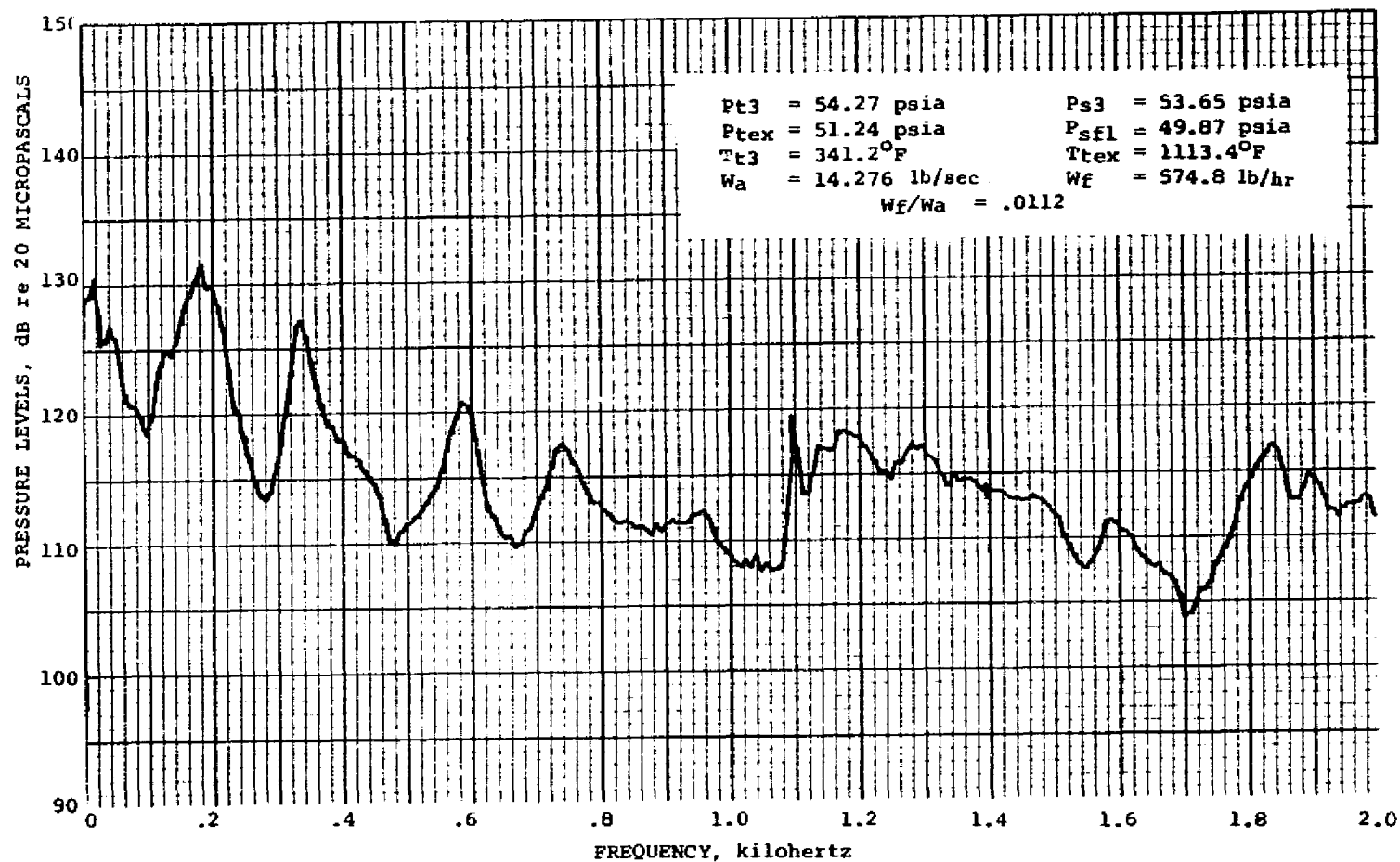
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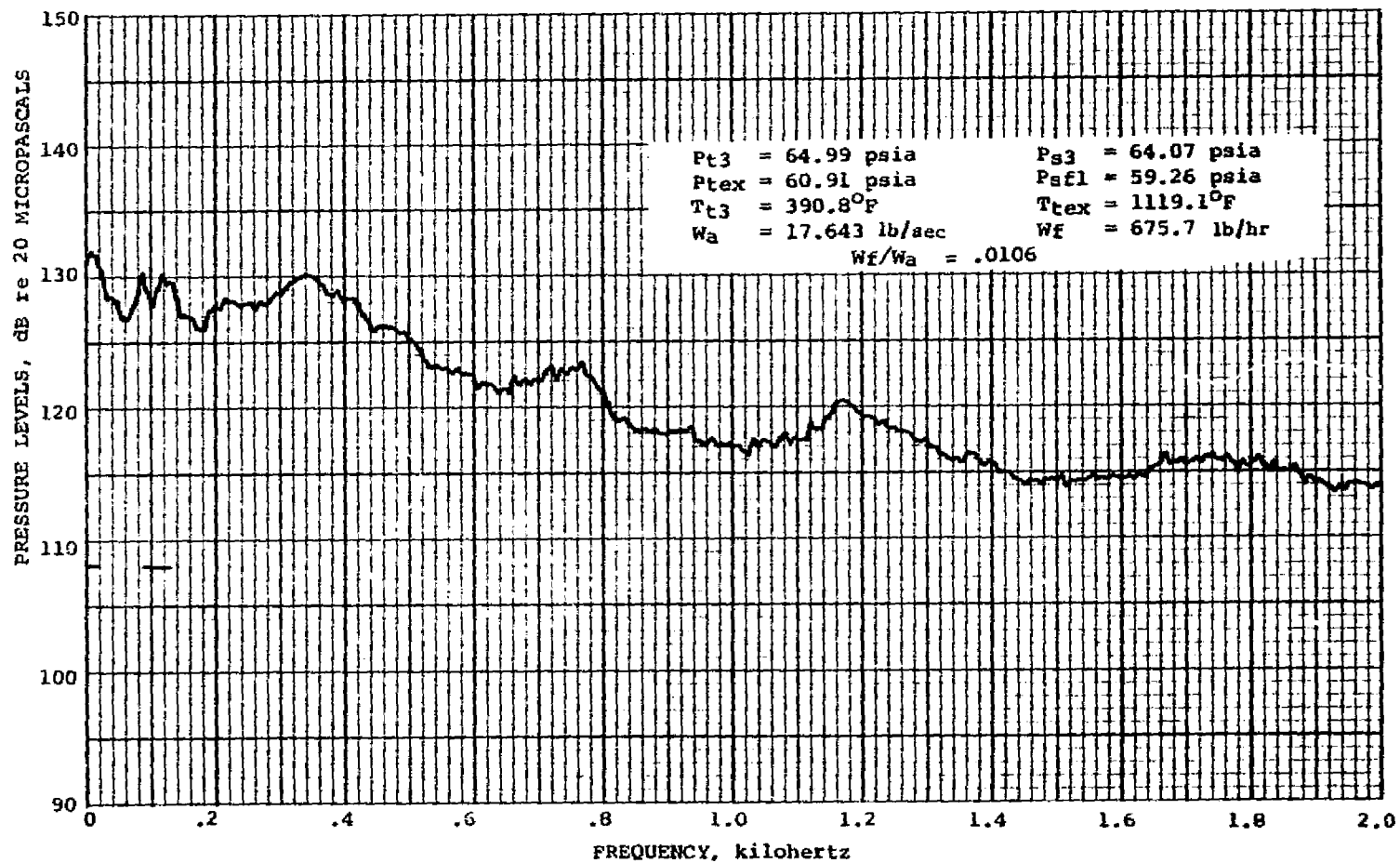
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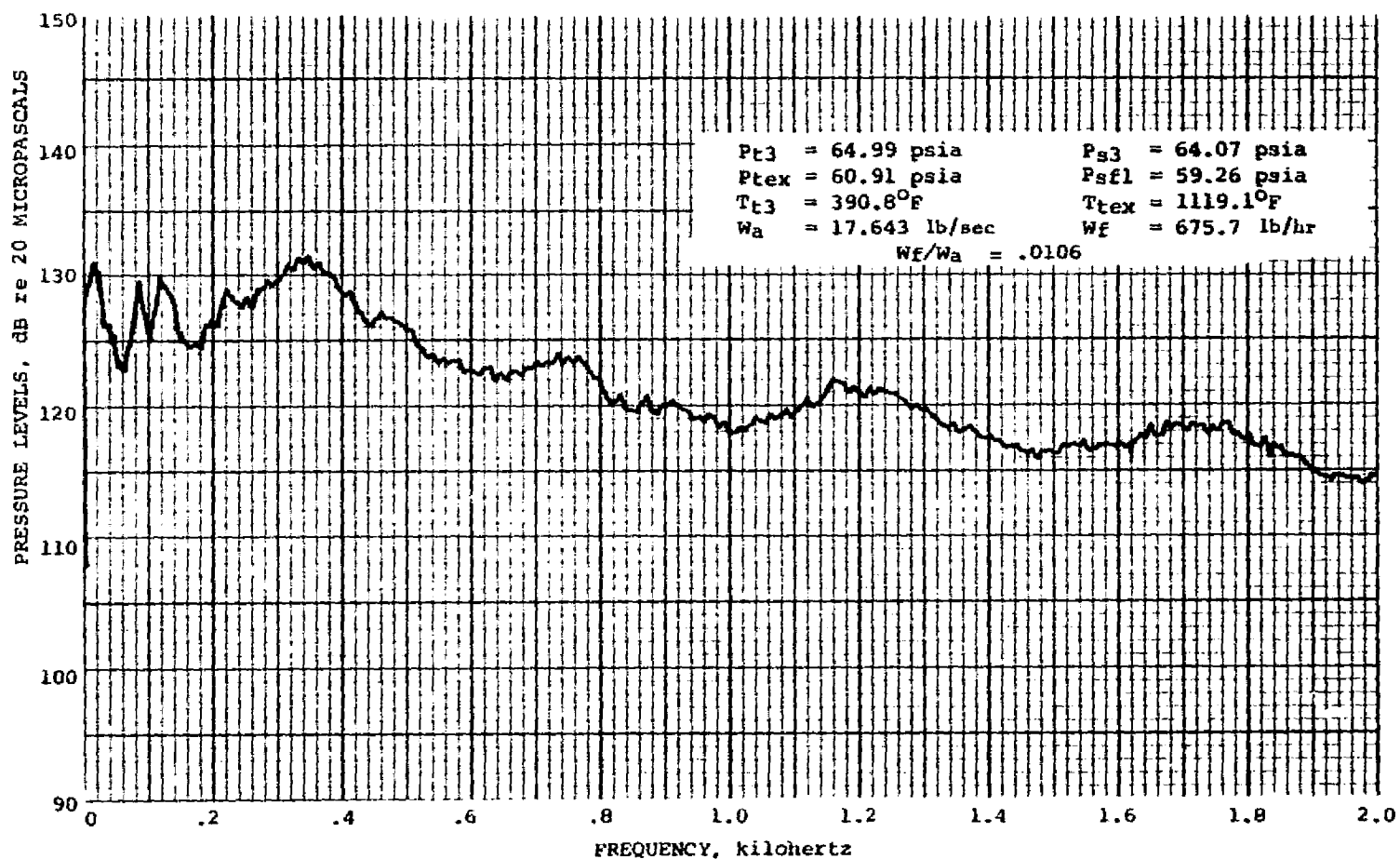
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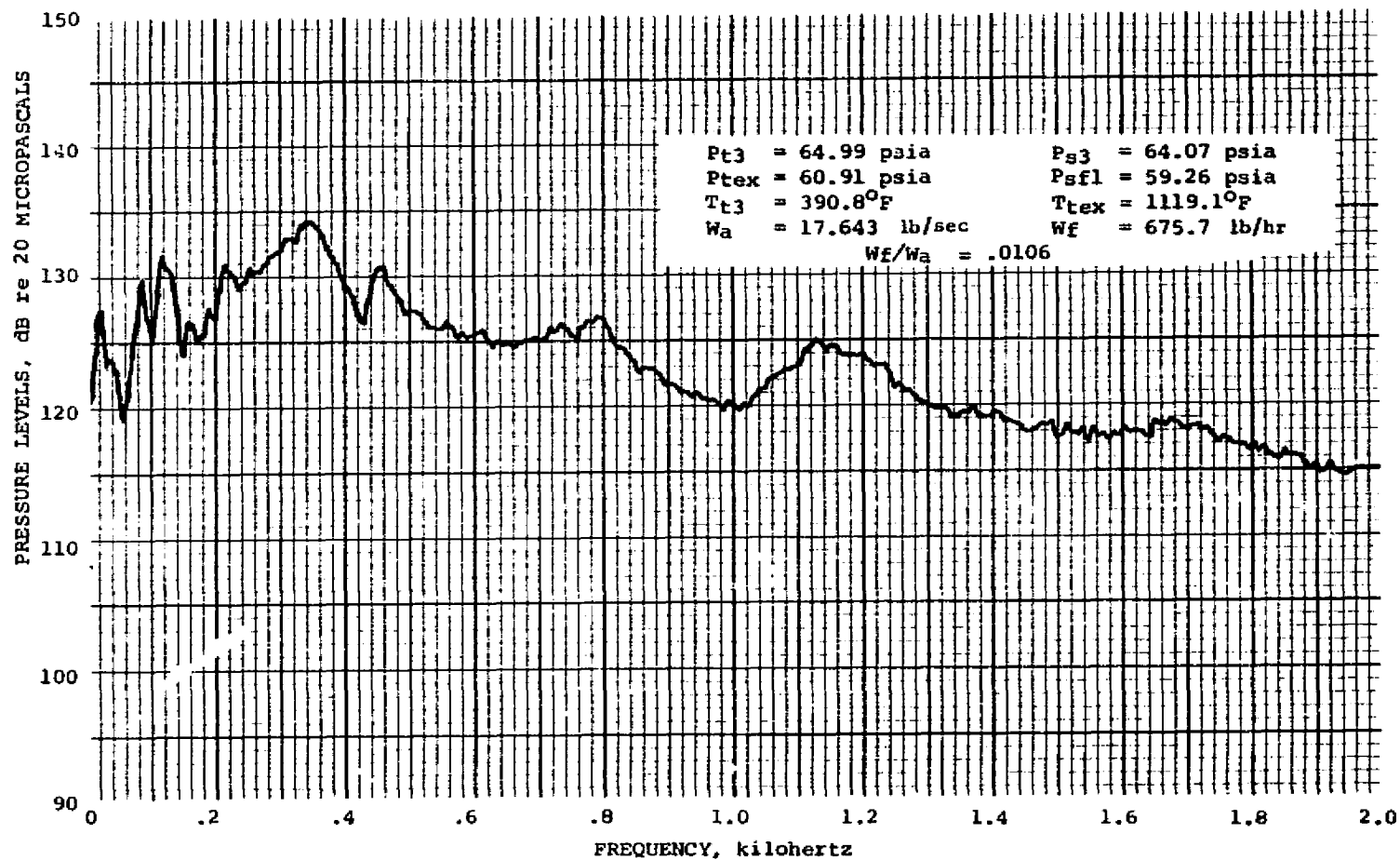
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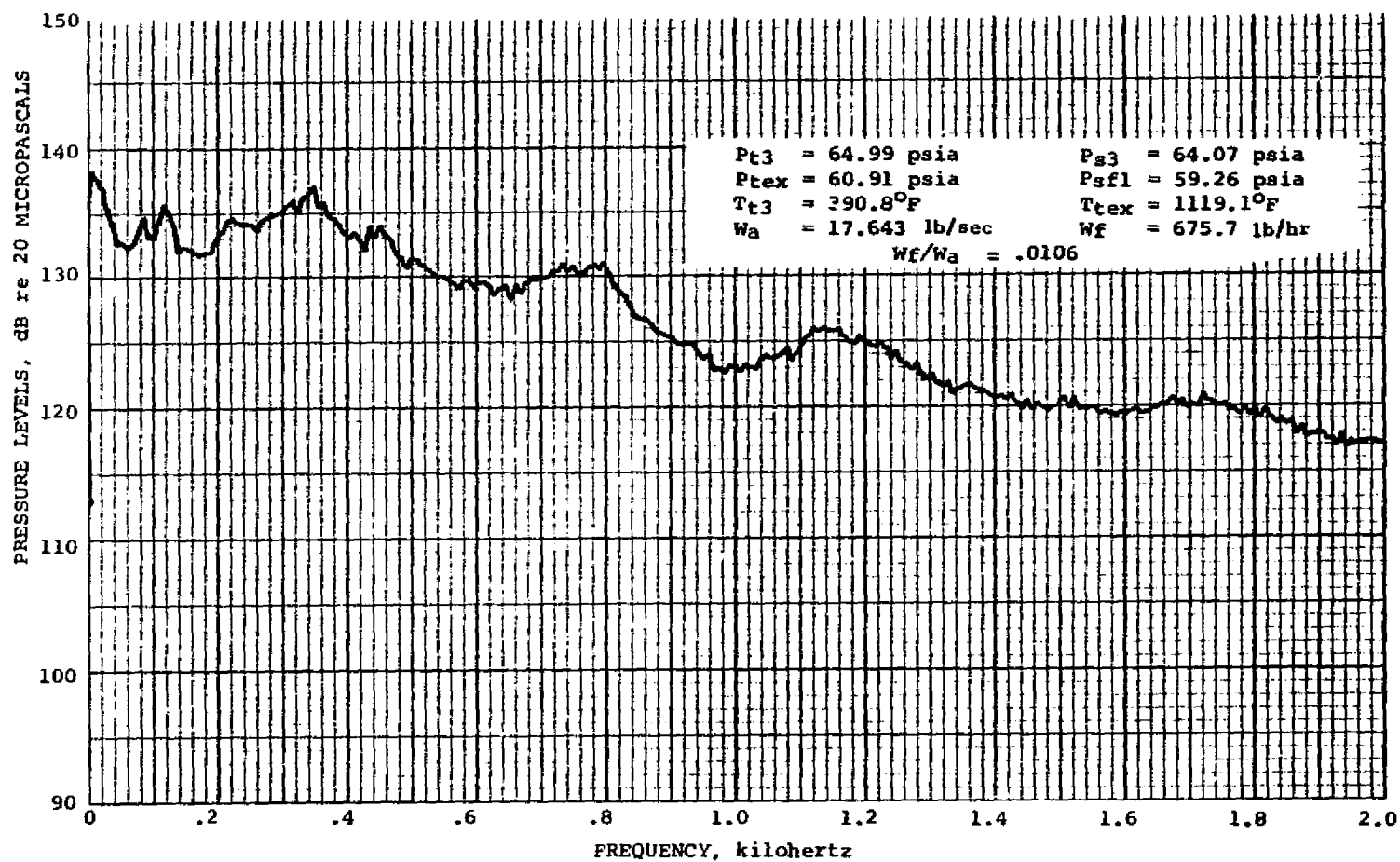
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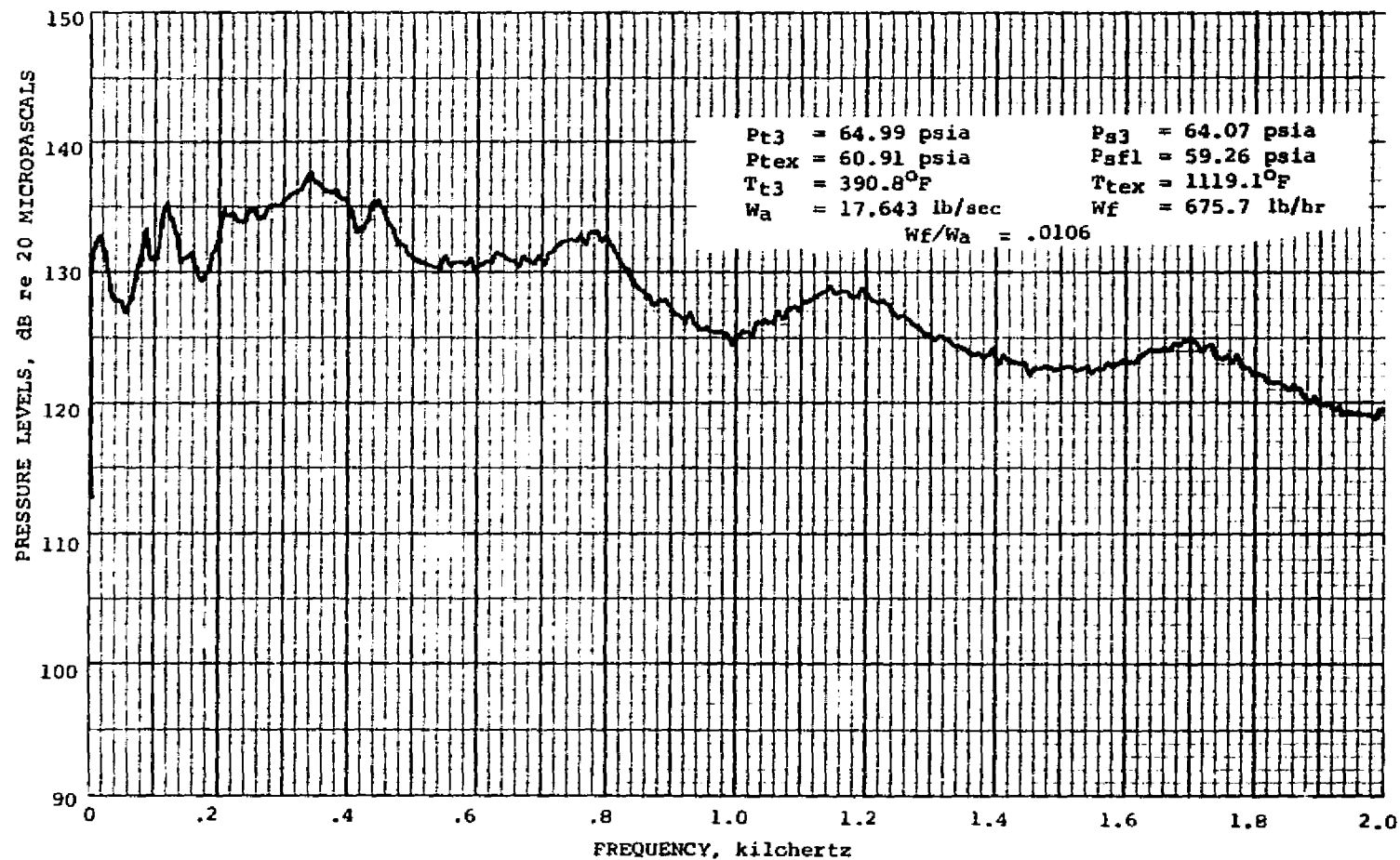
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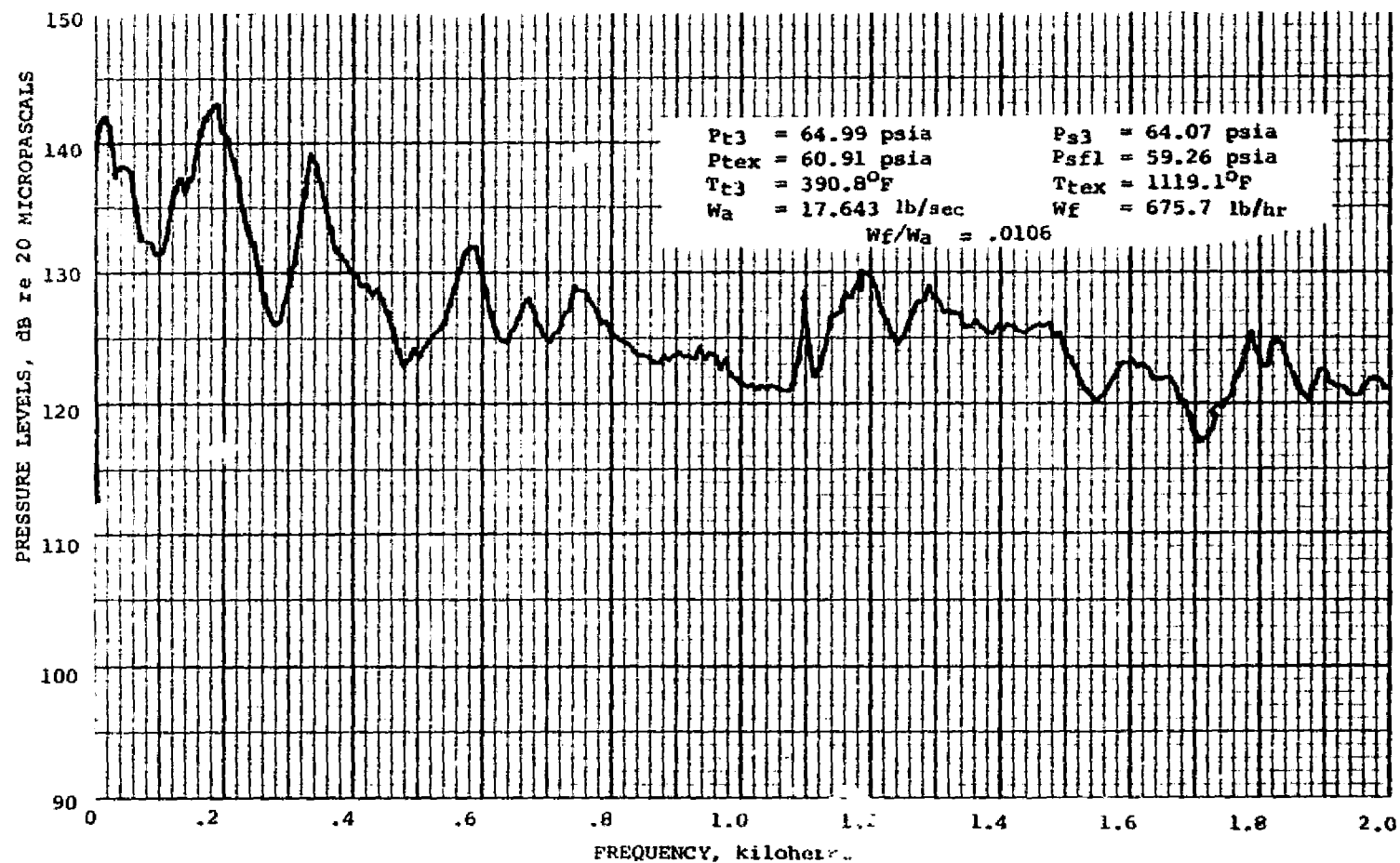
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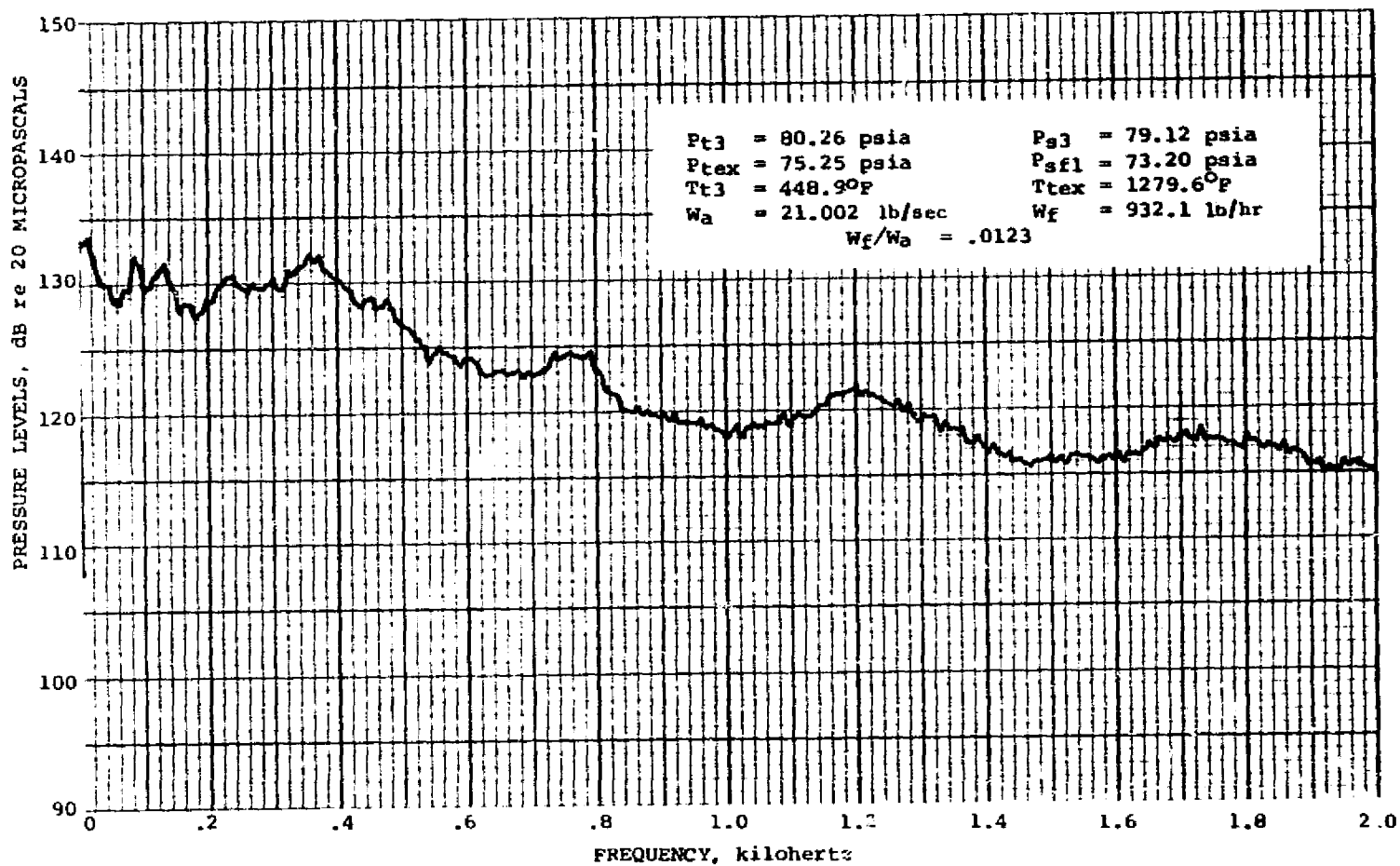
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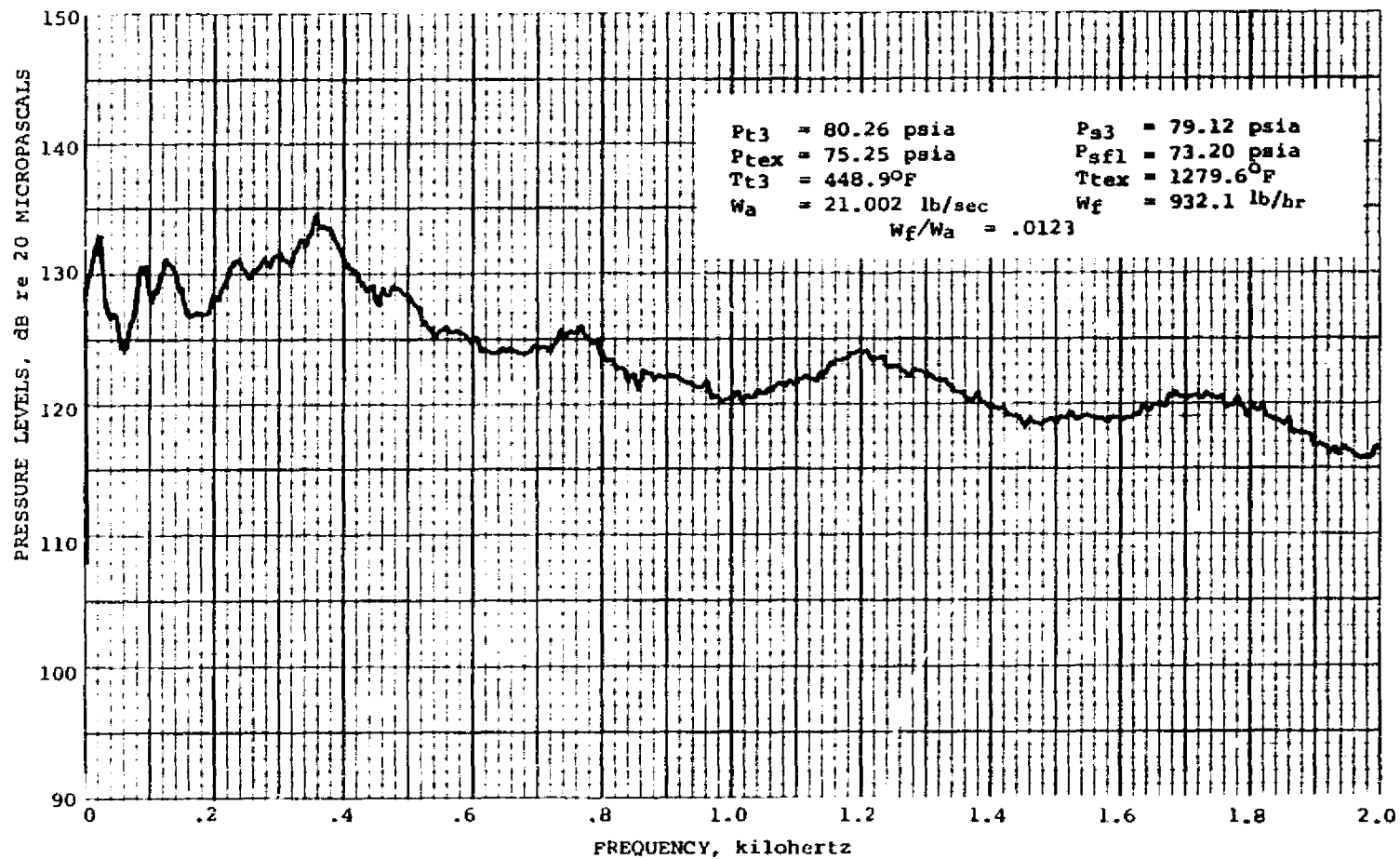


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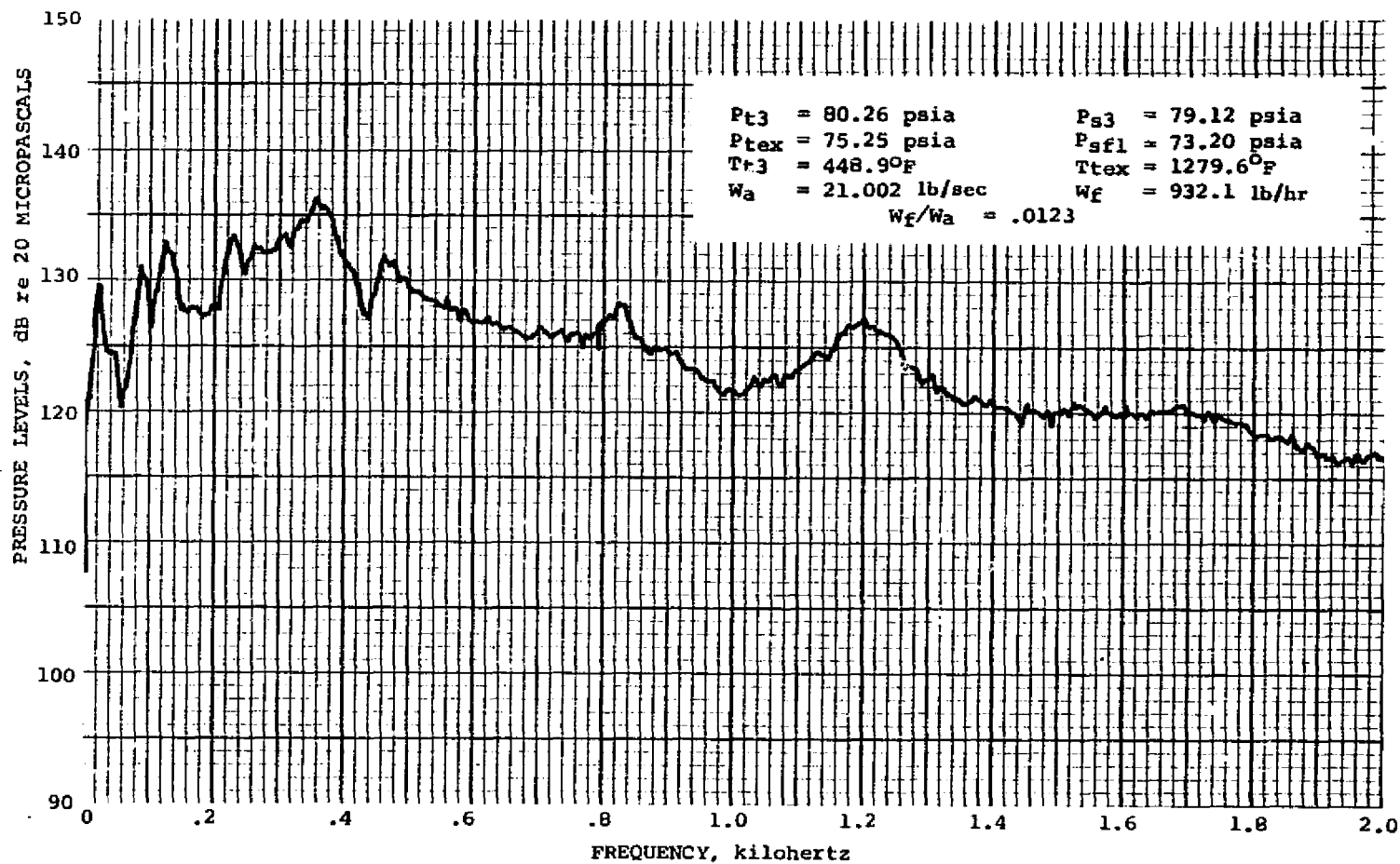


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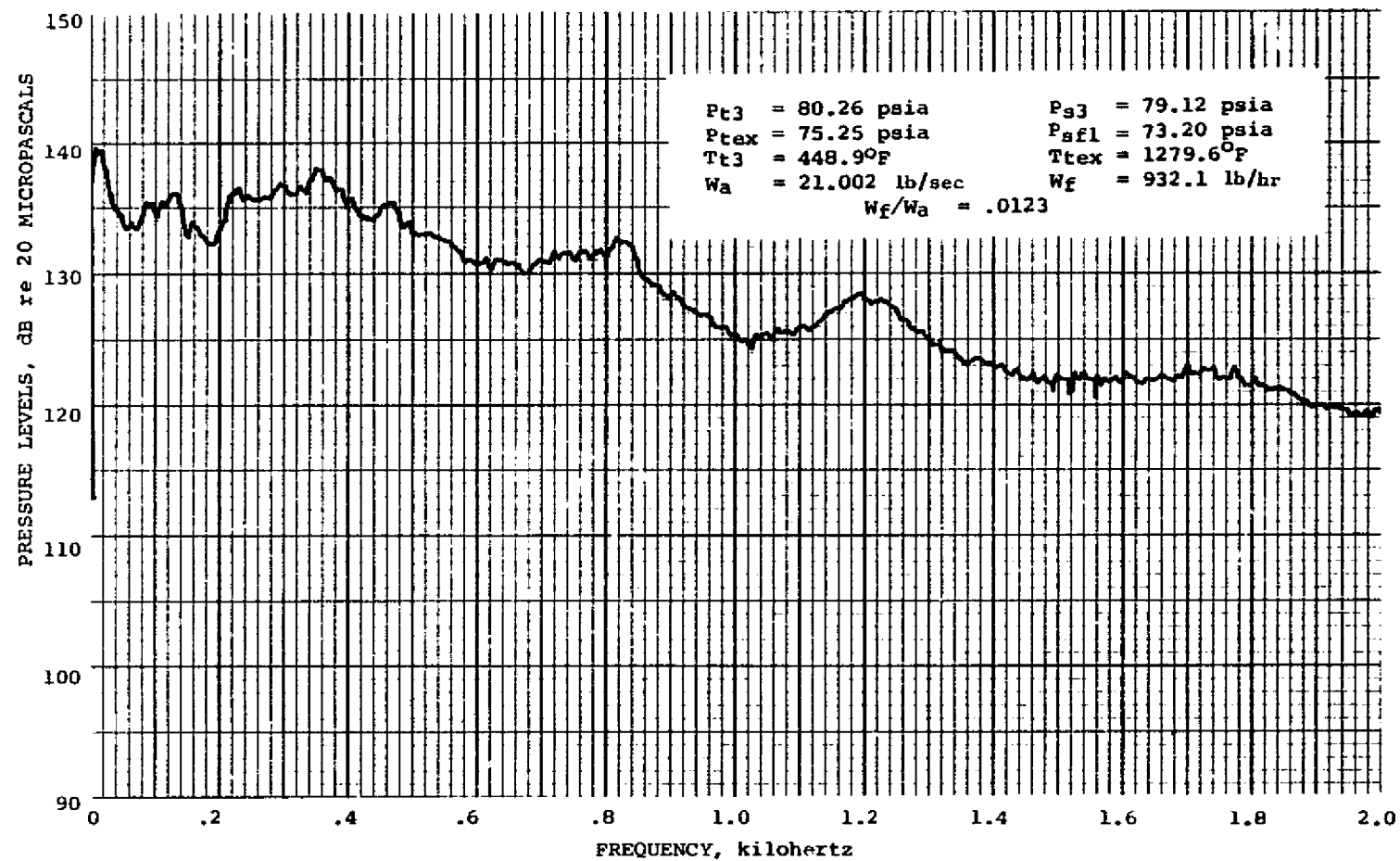
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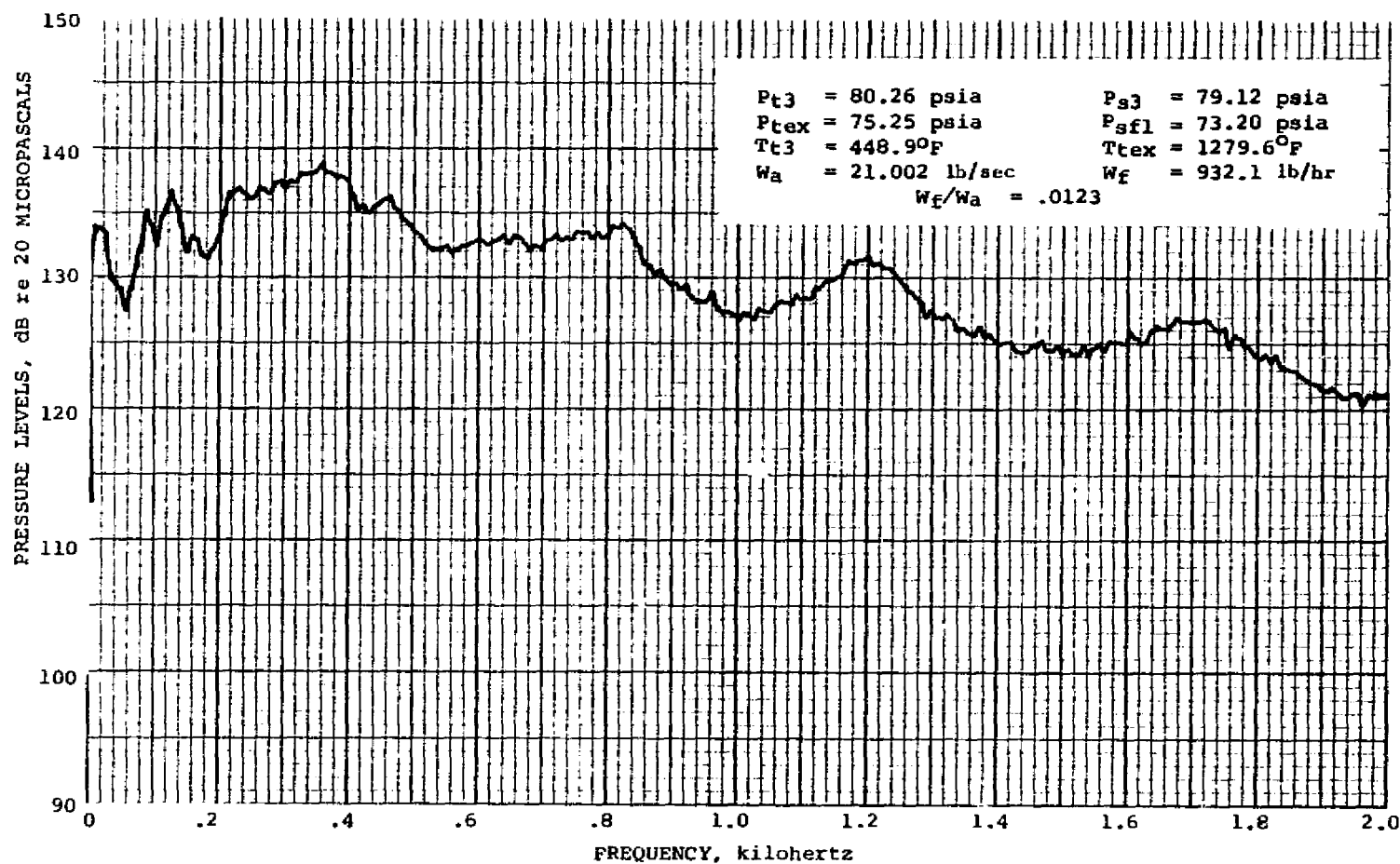
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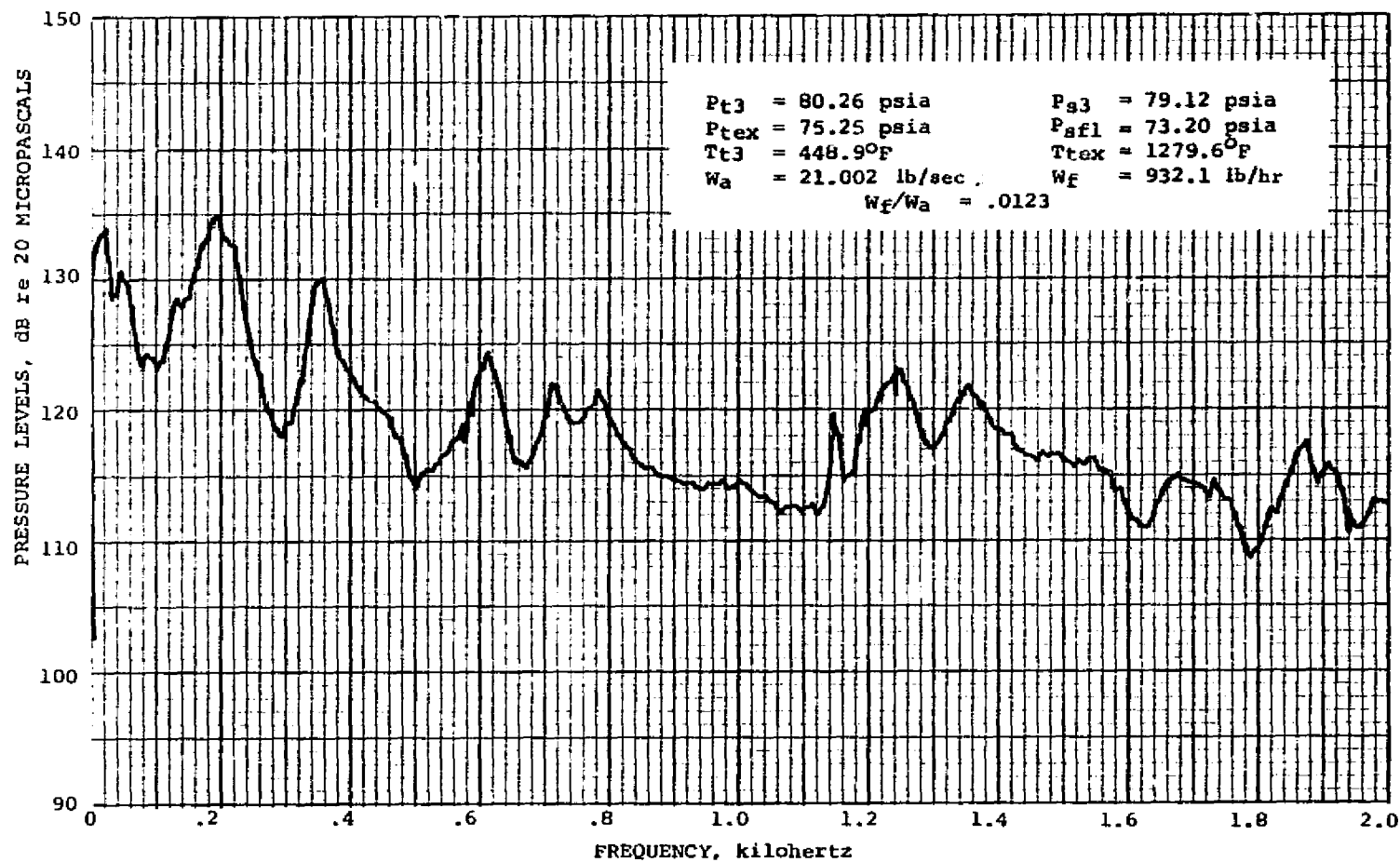
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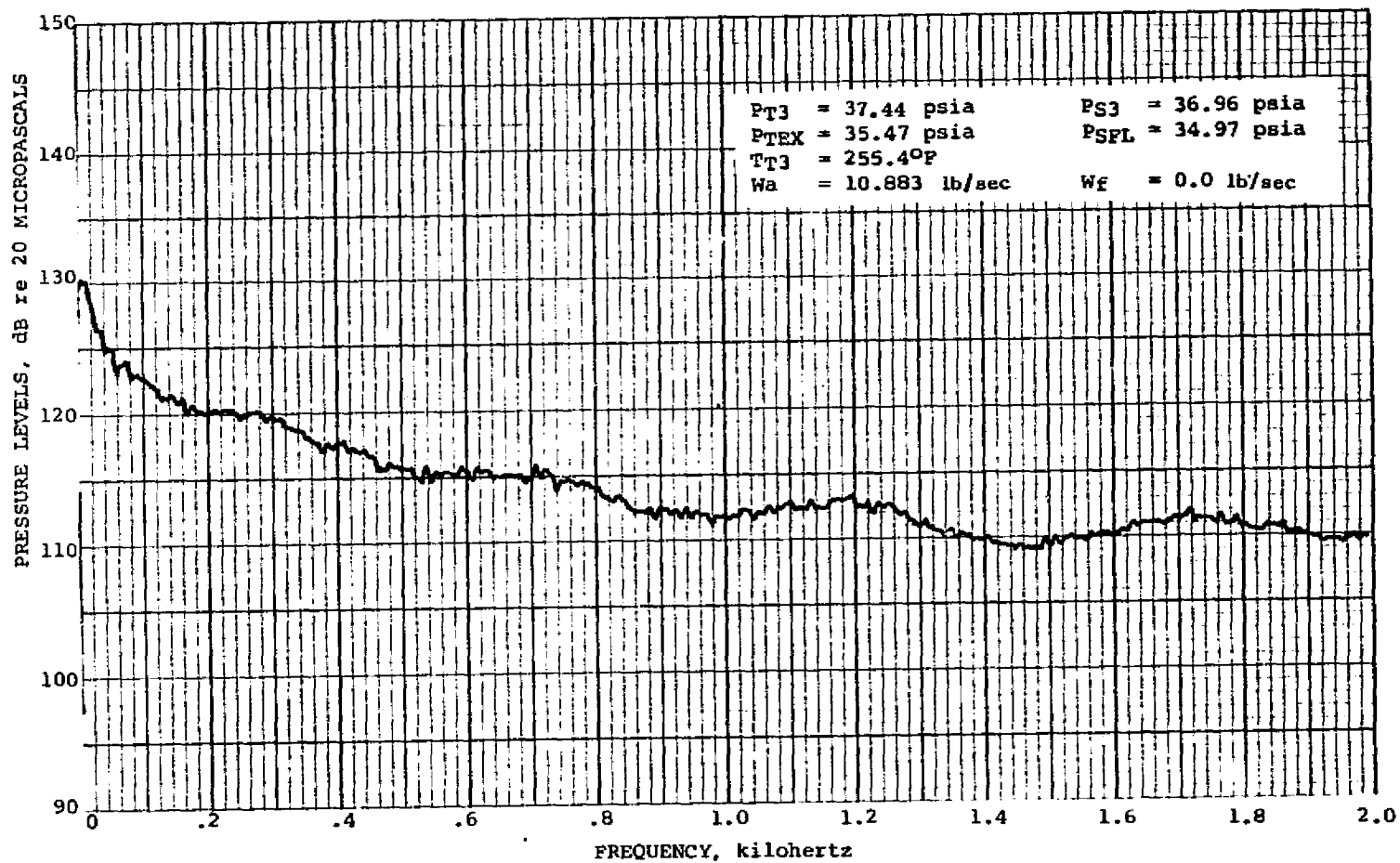
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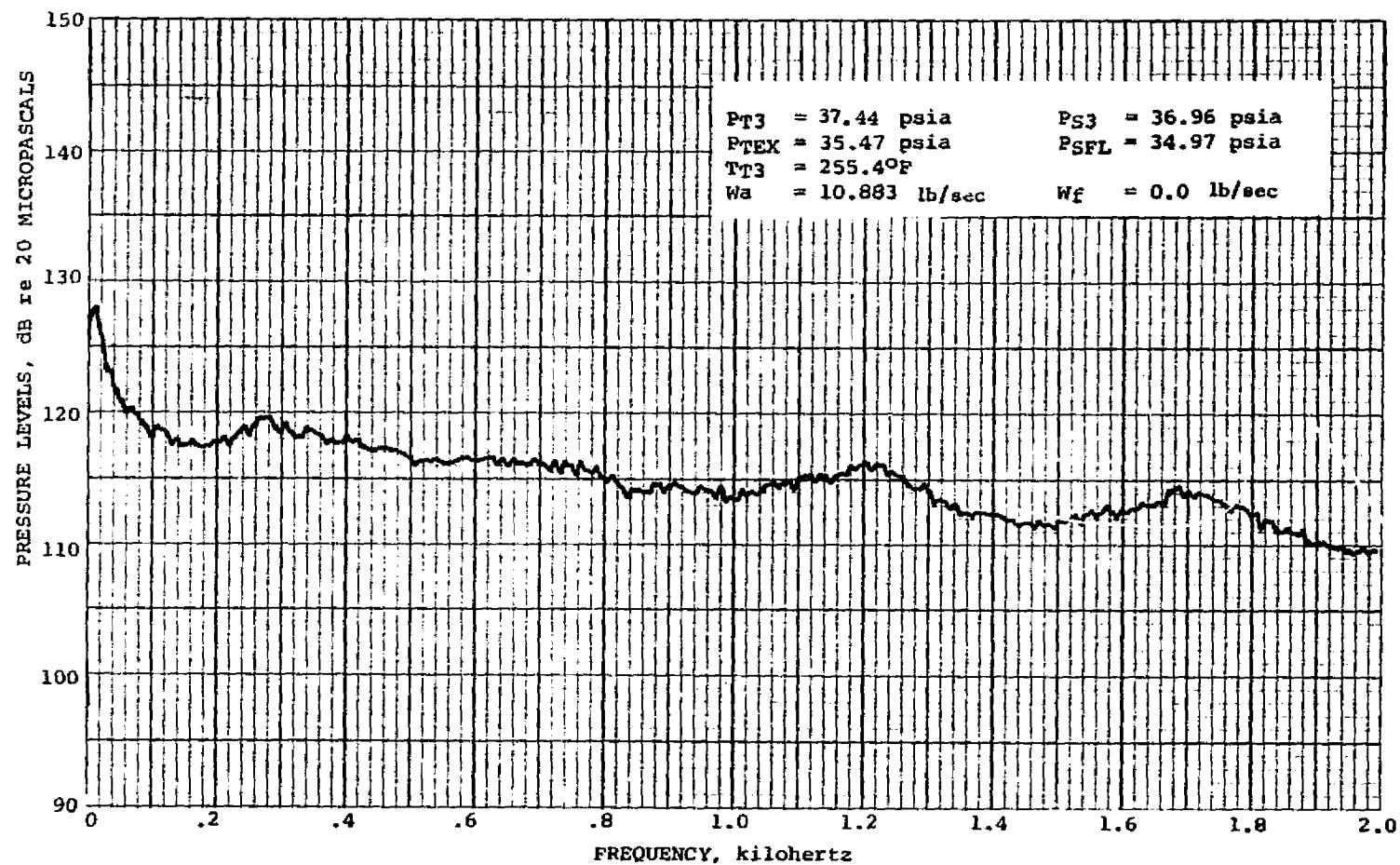
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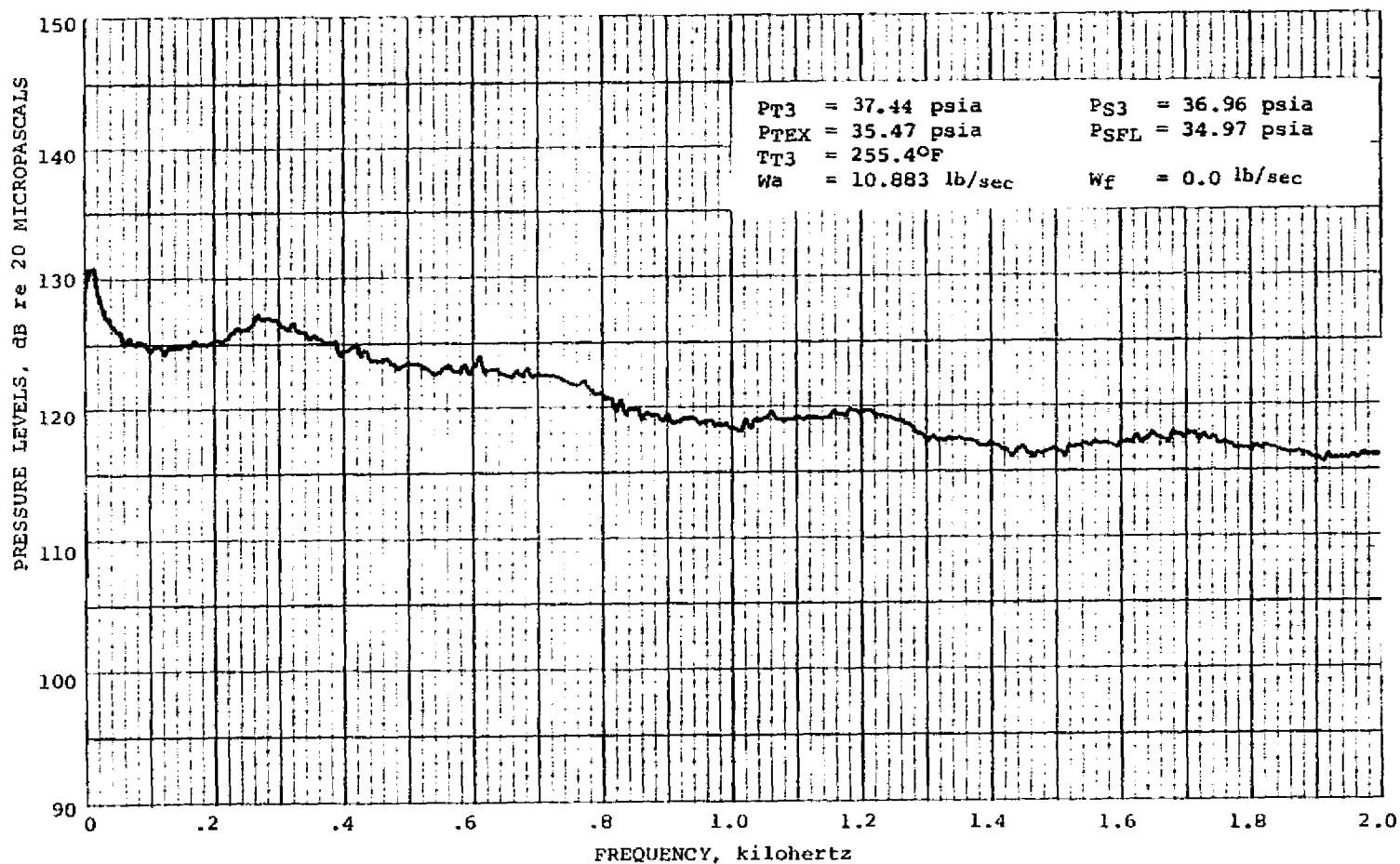


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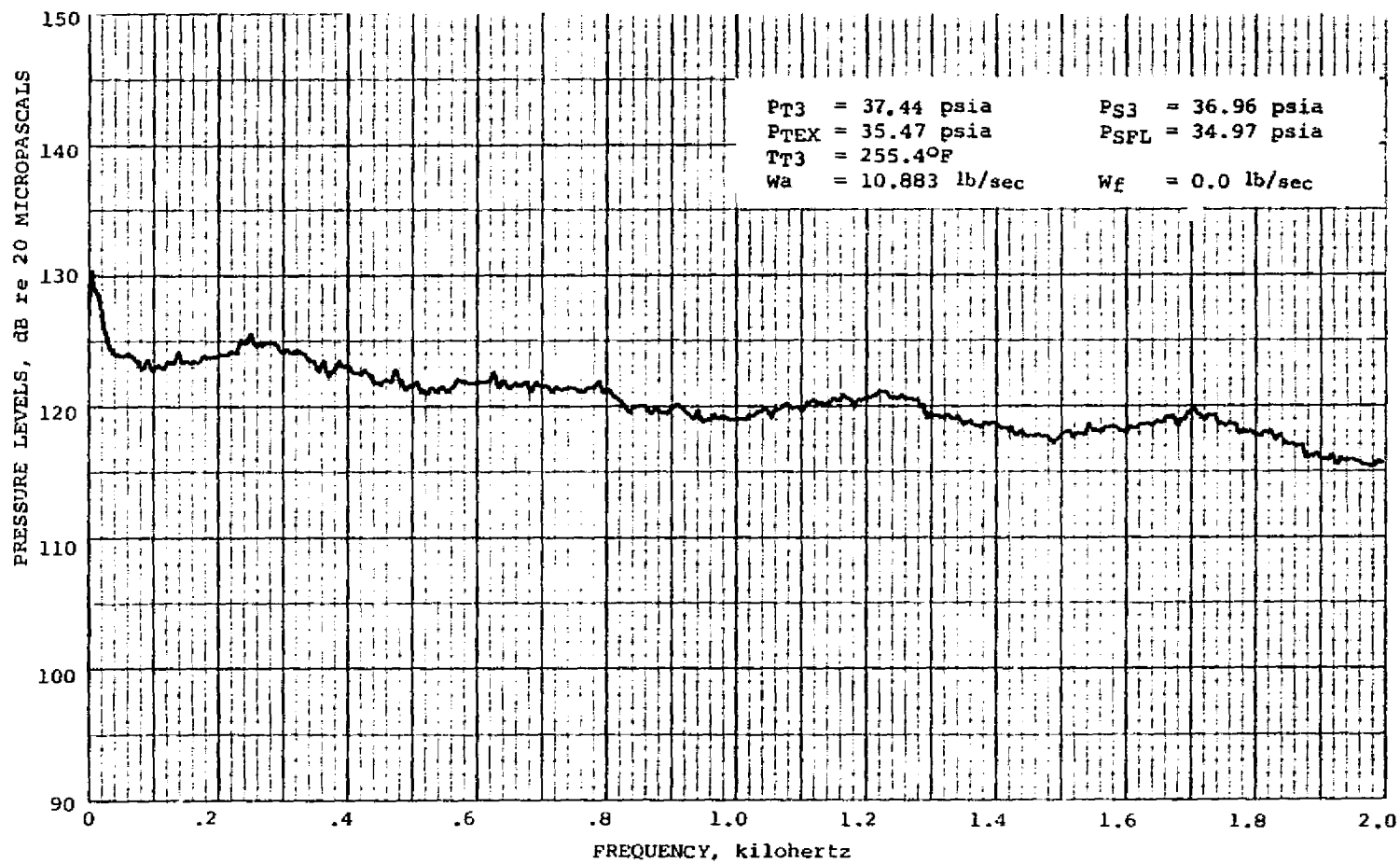
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P _{T_{EX}} = 35.47 psia	P _{S_{FL}} = 34.97 psia
T _{T3} = 255.4 ^o F	
W _a = 10.883 lb/sec	W _F = 0.0 lb/sec

303

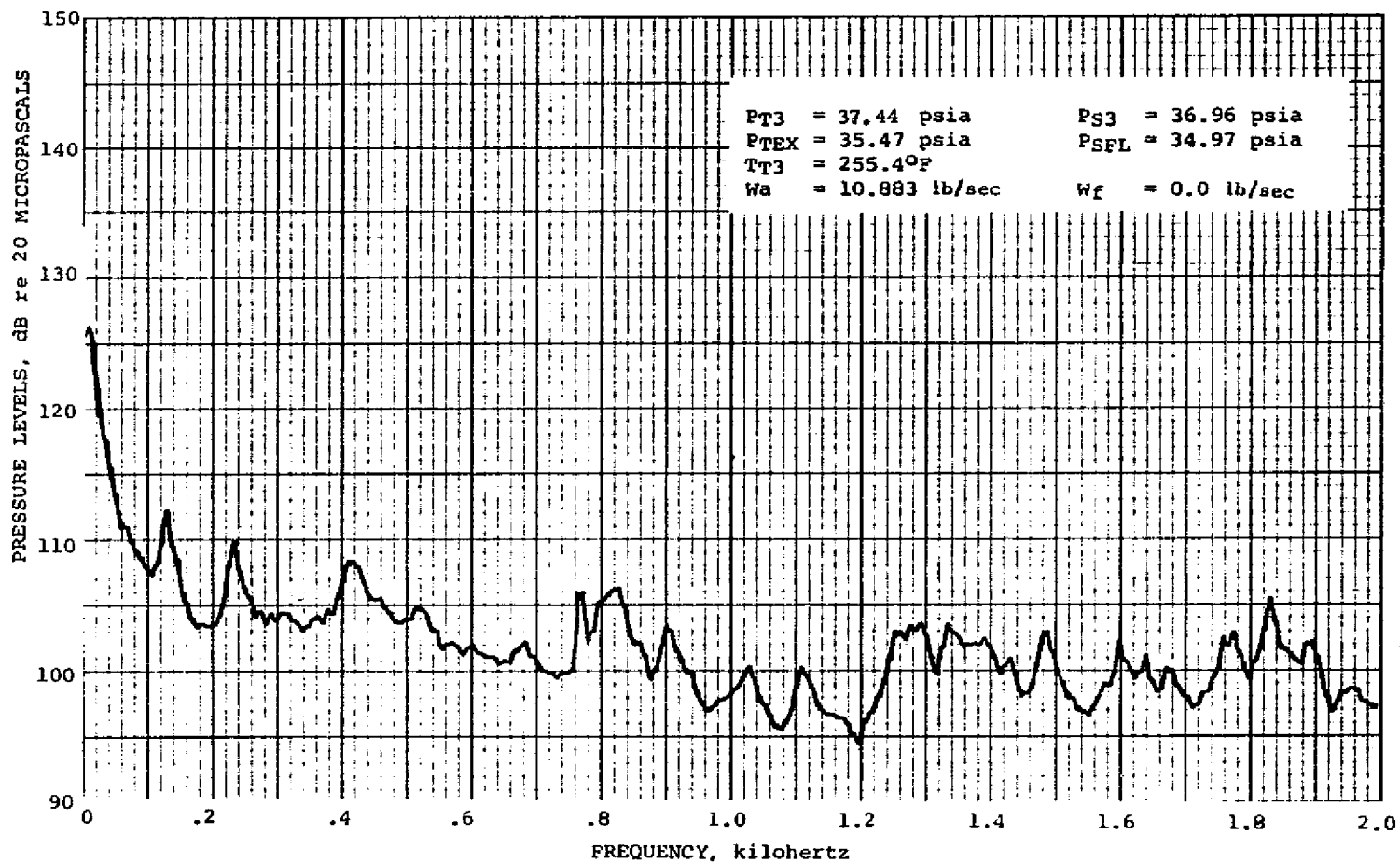
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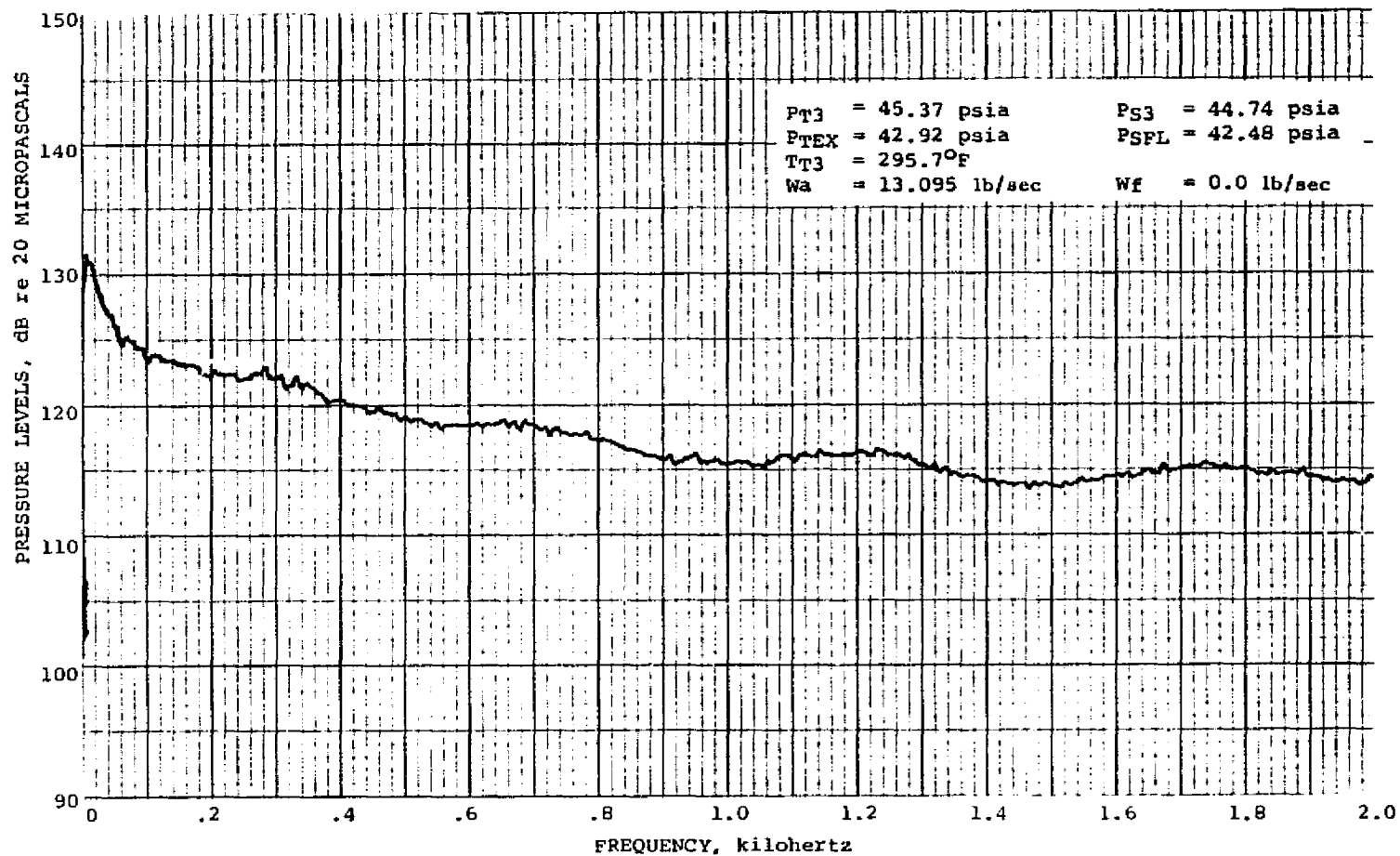
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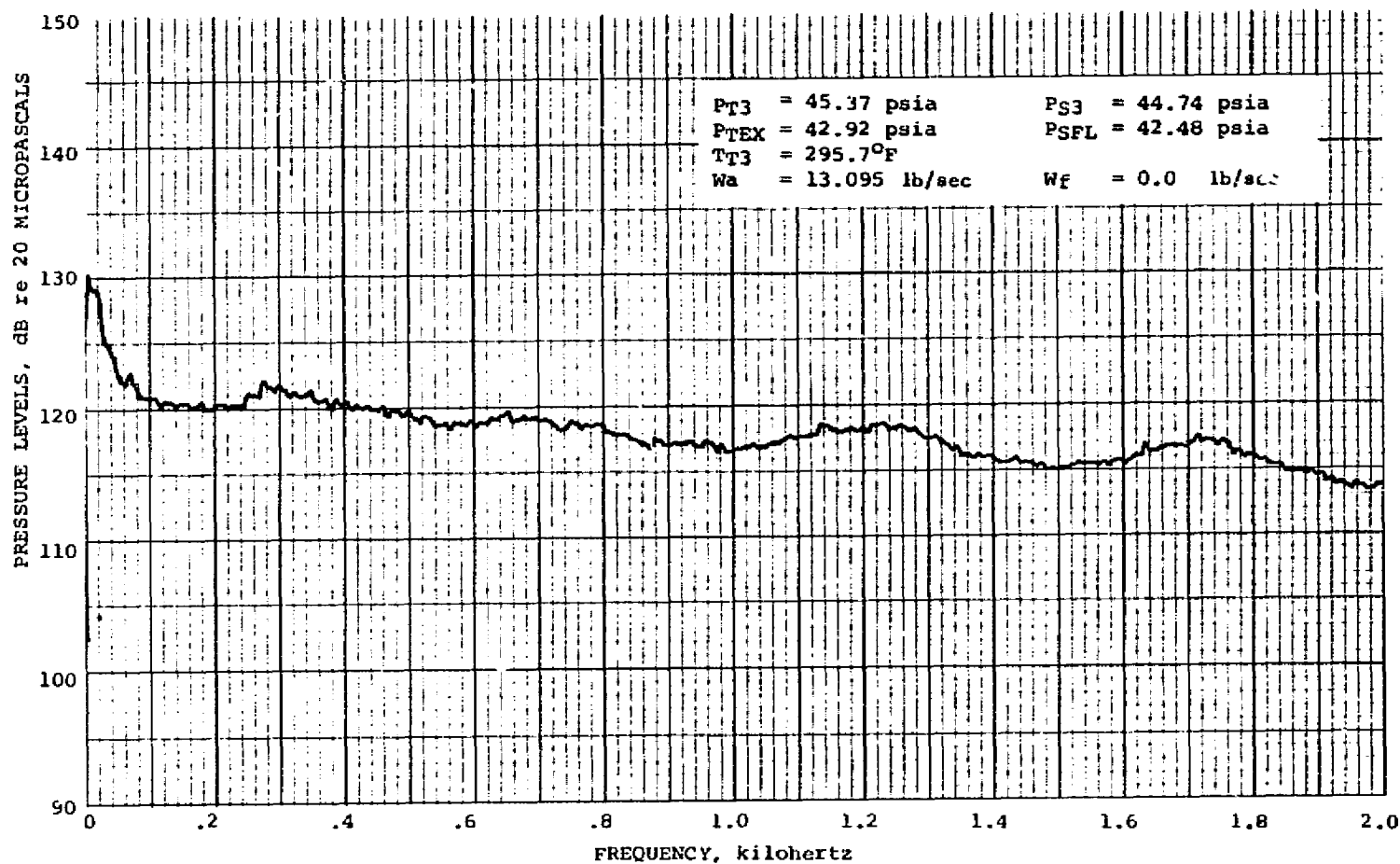
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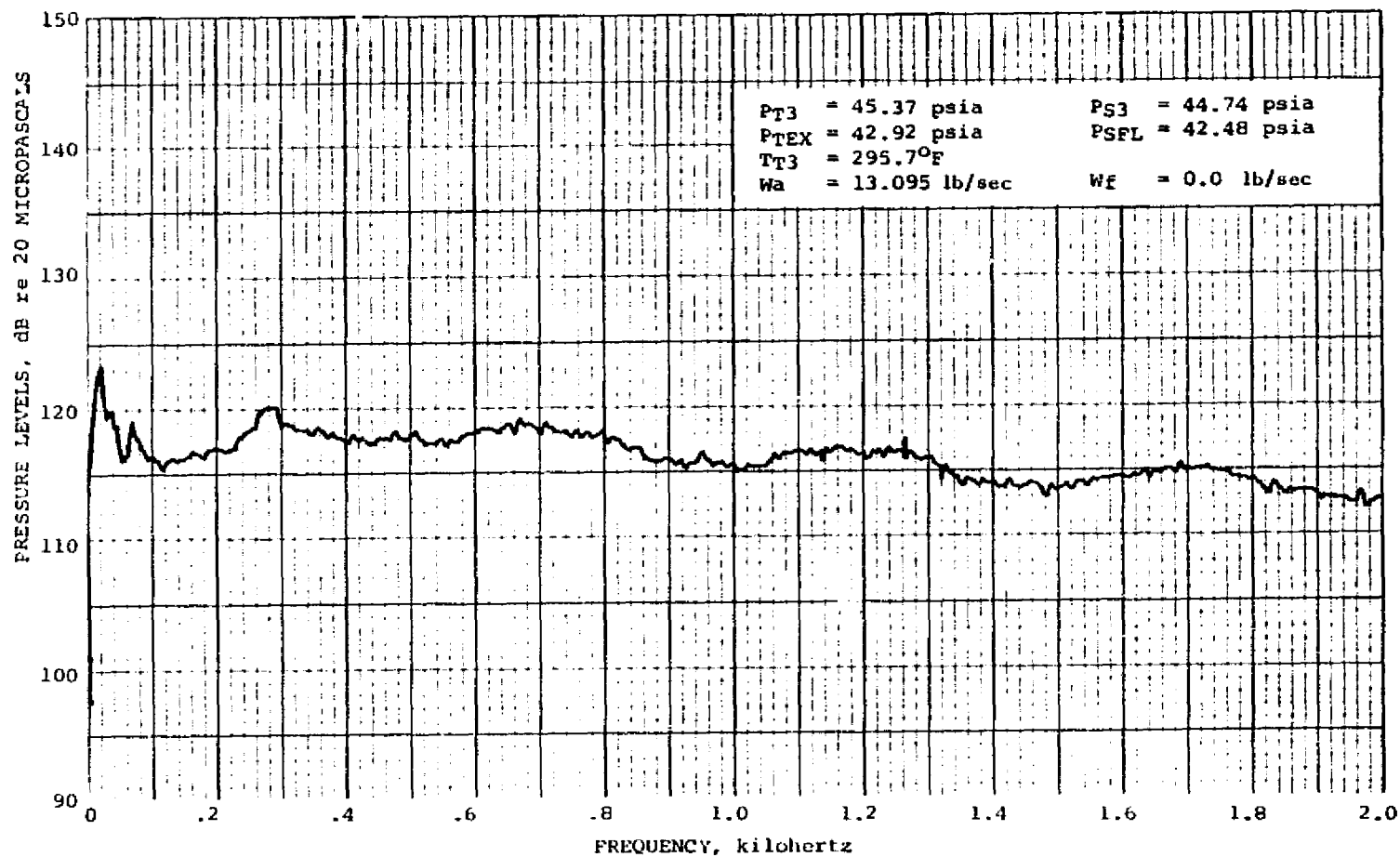
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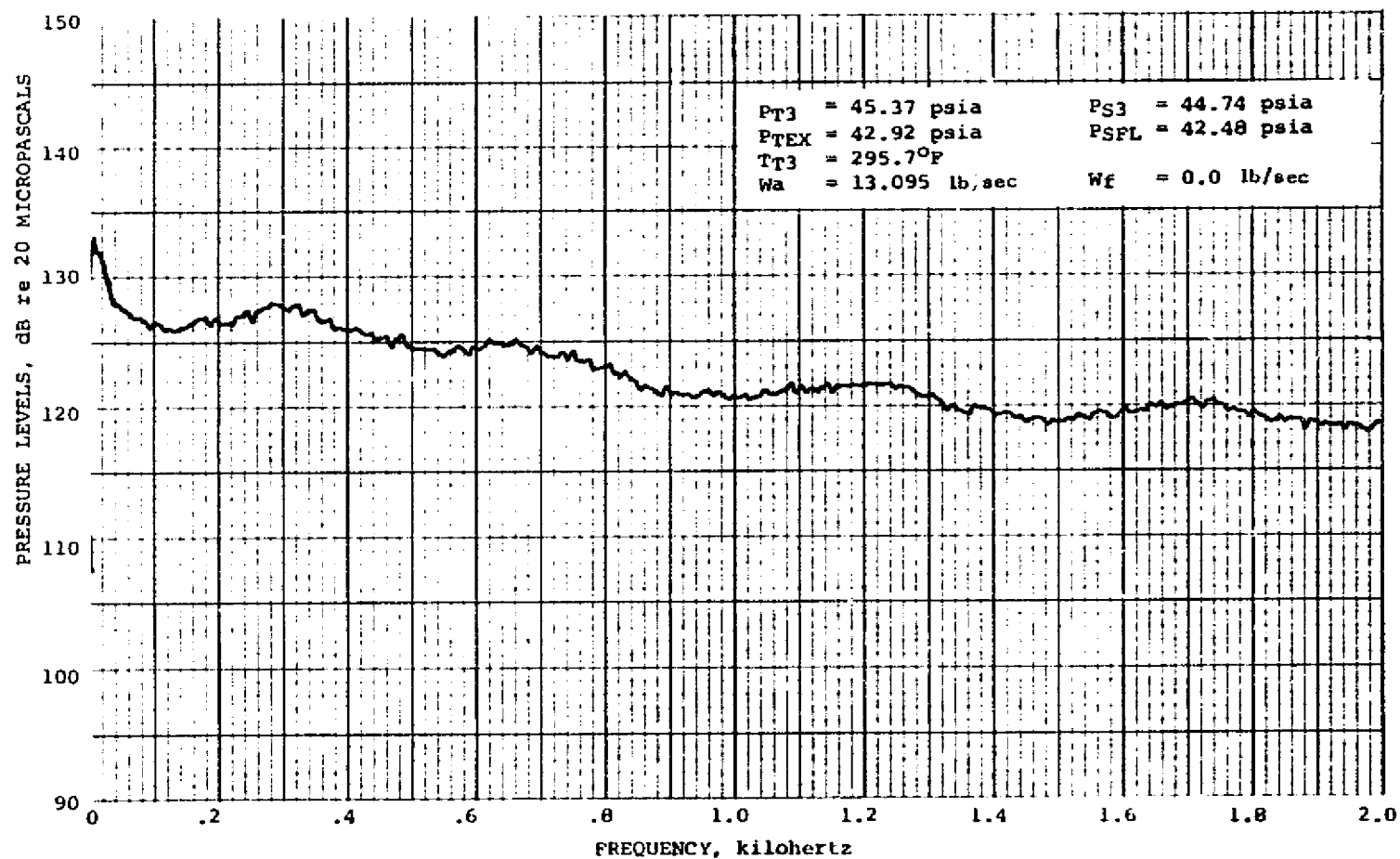
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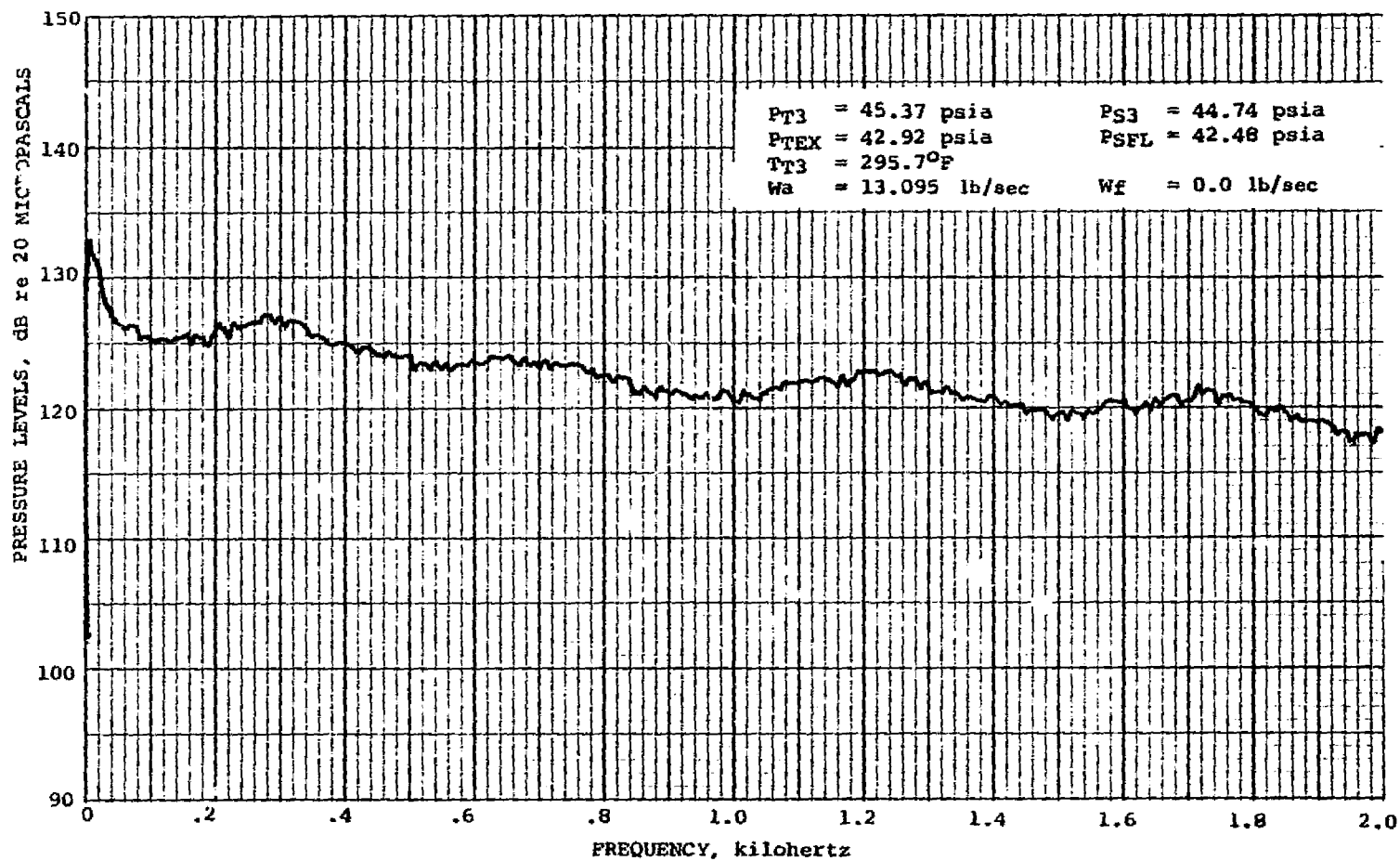
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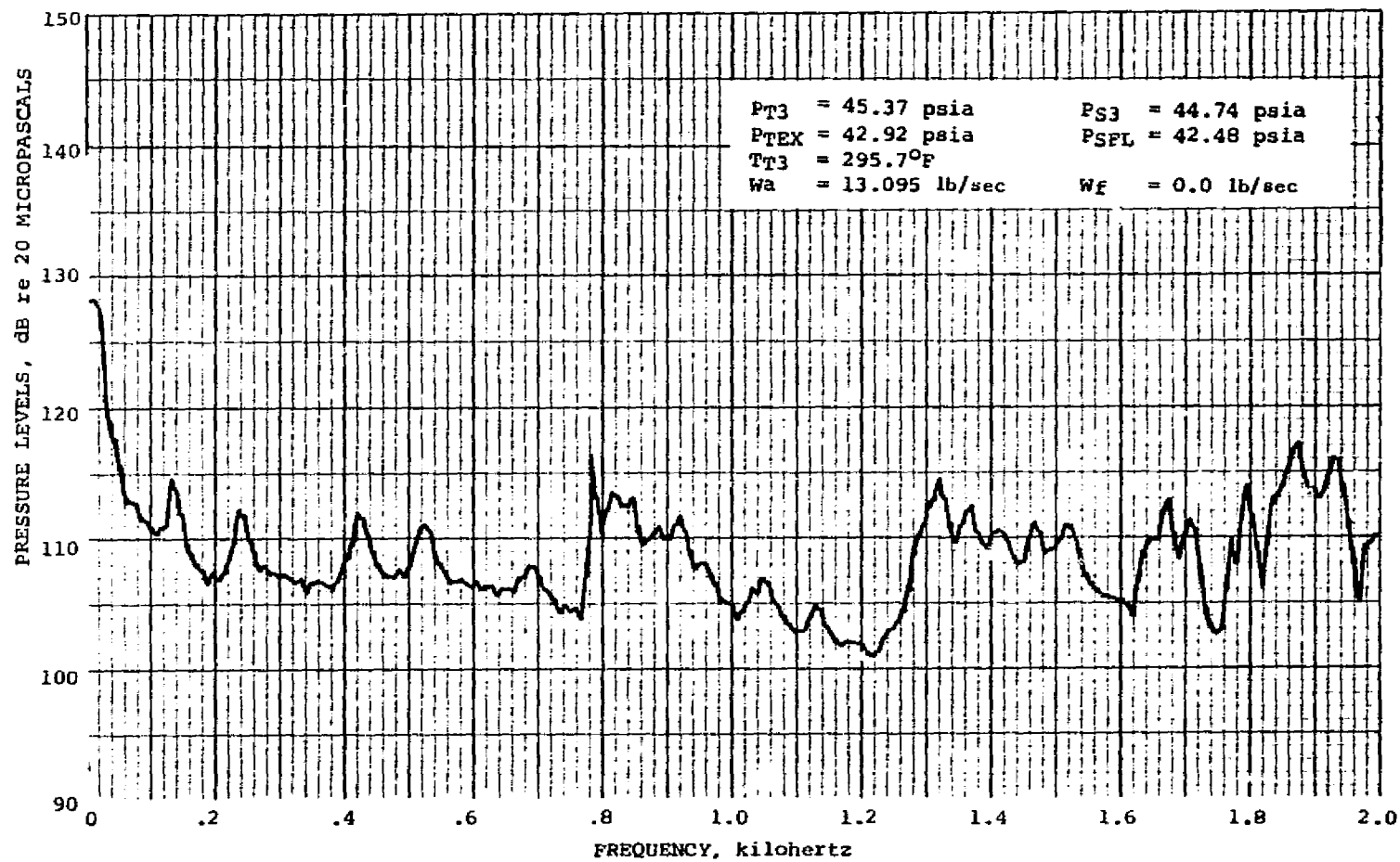
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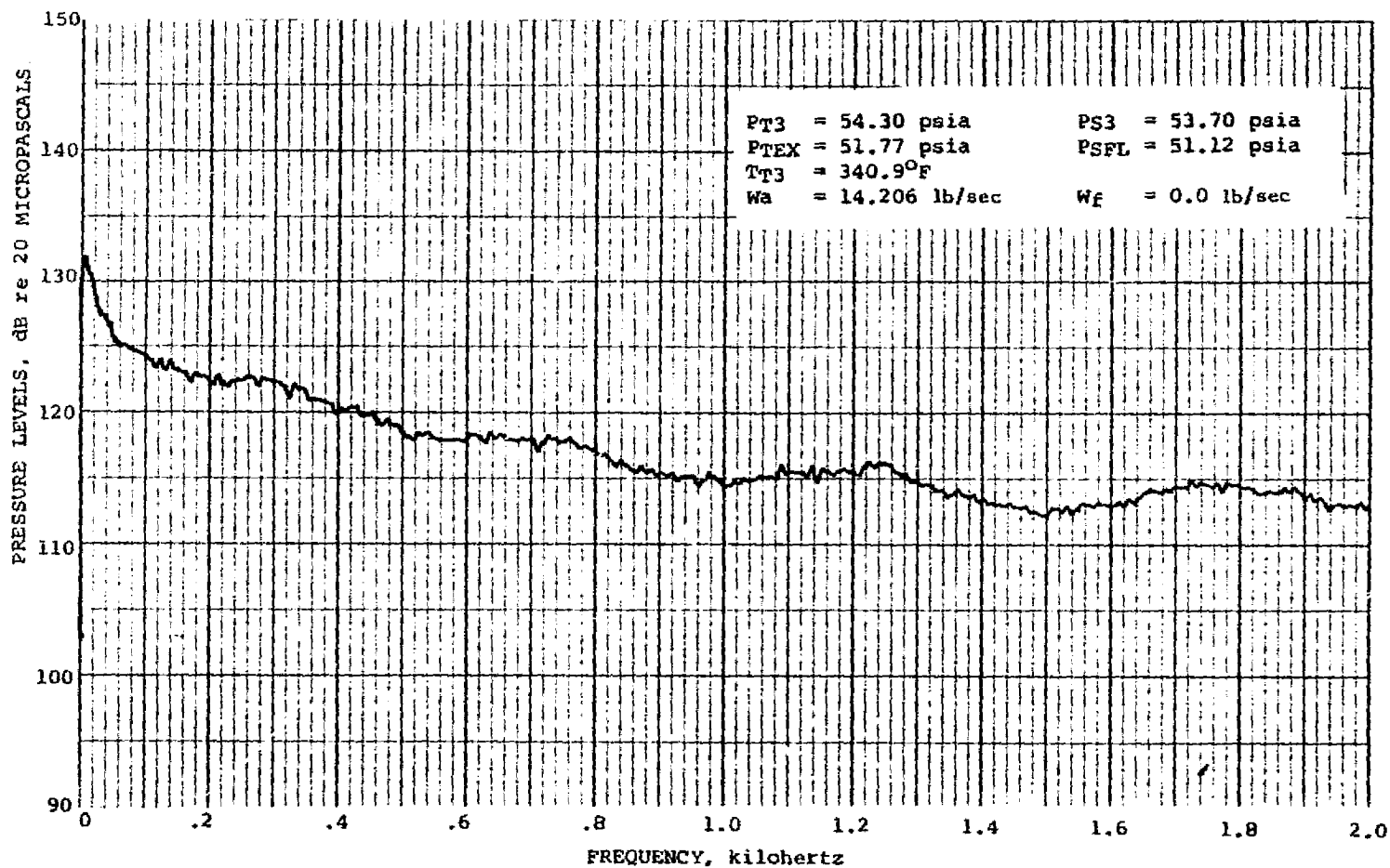
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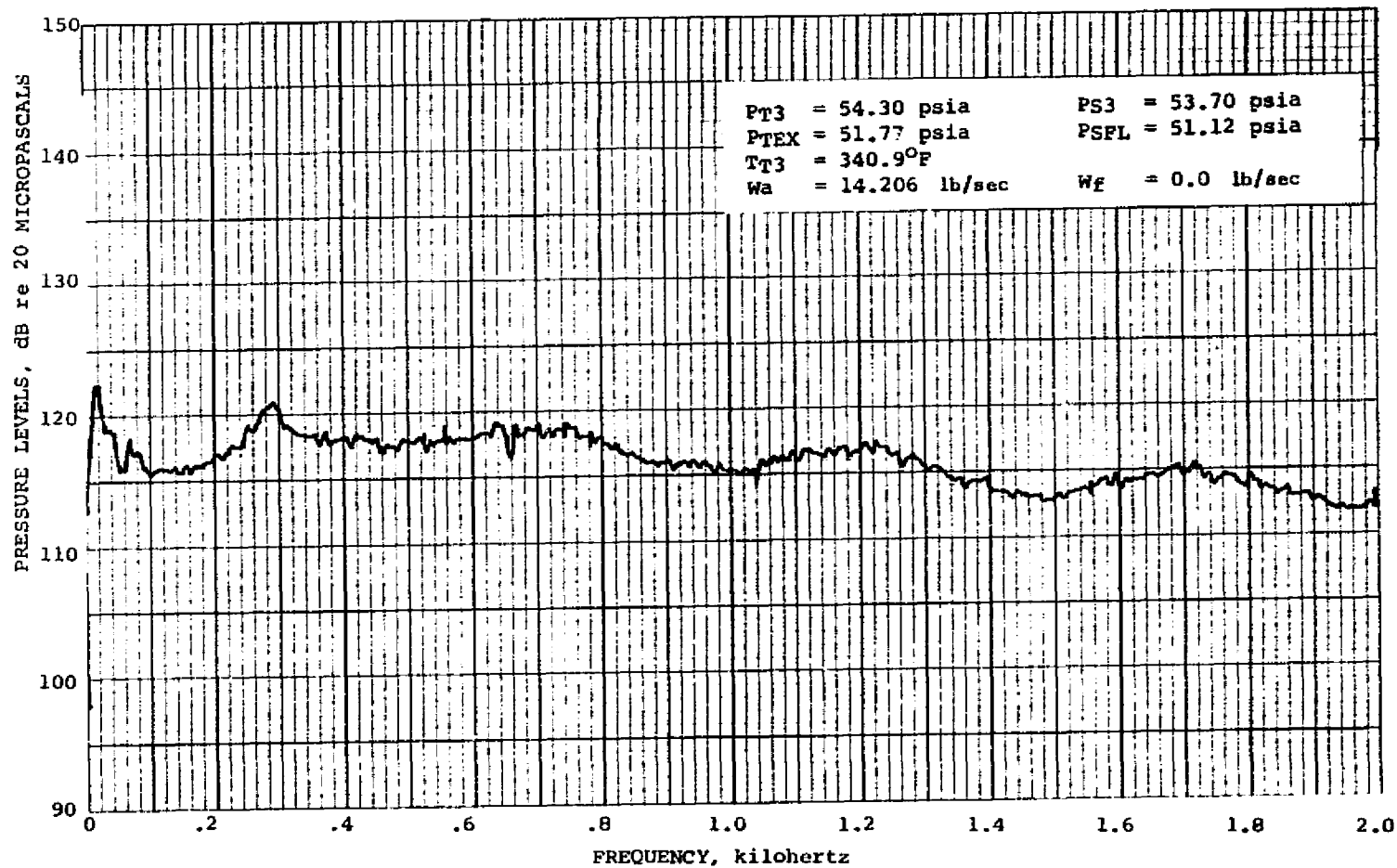
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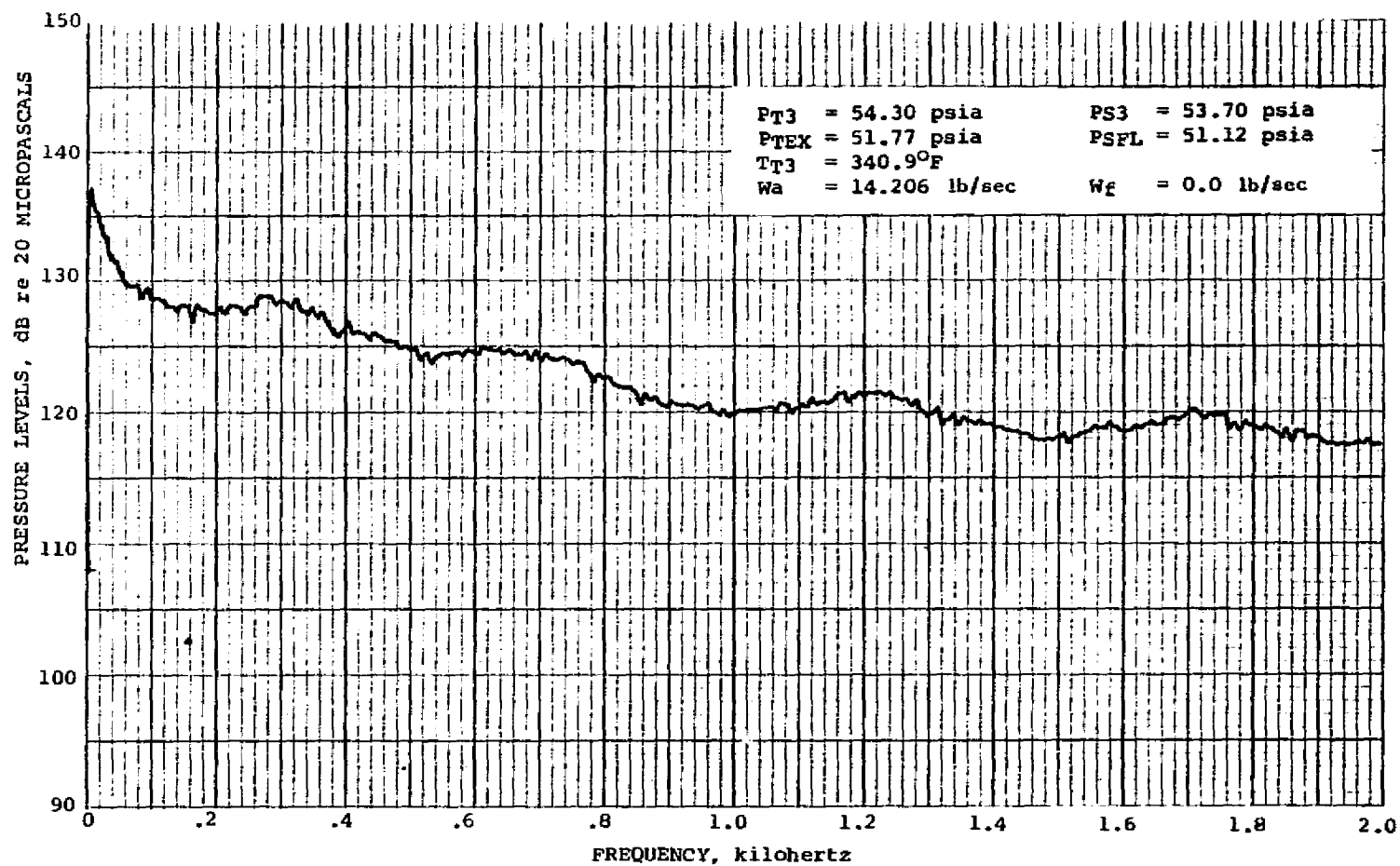
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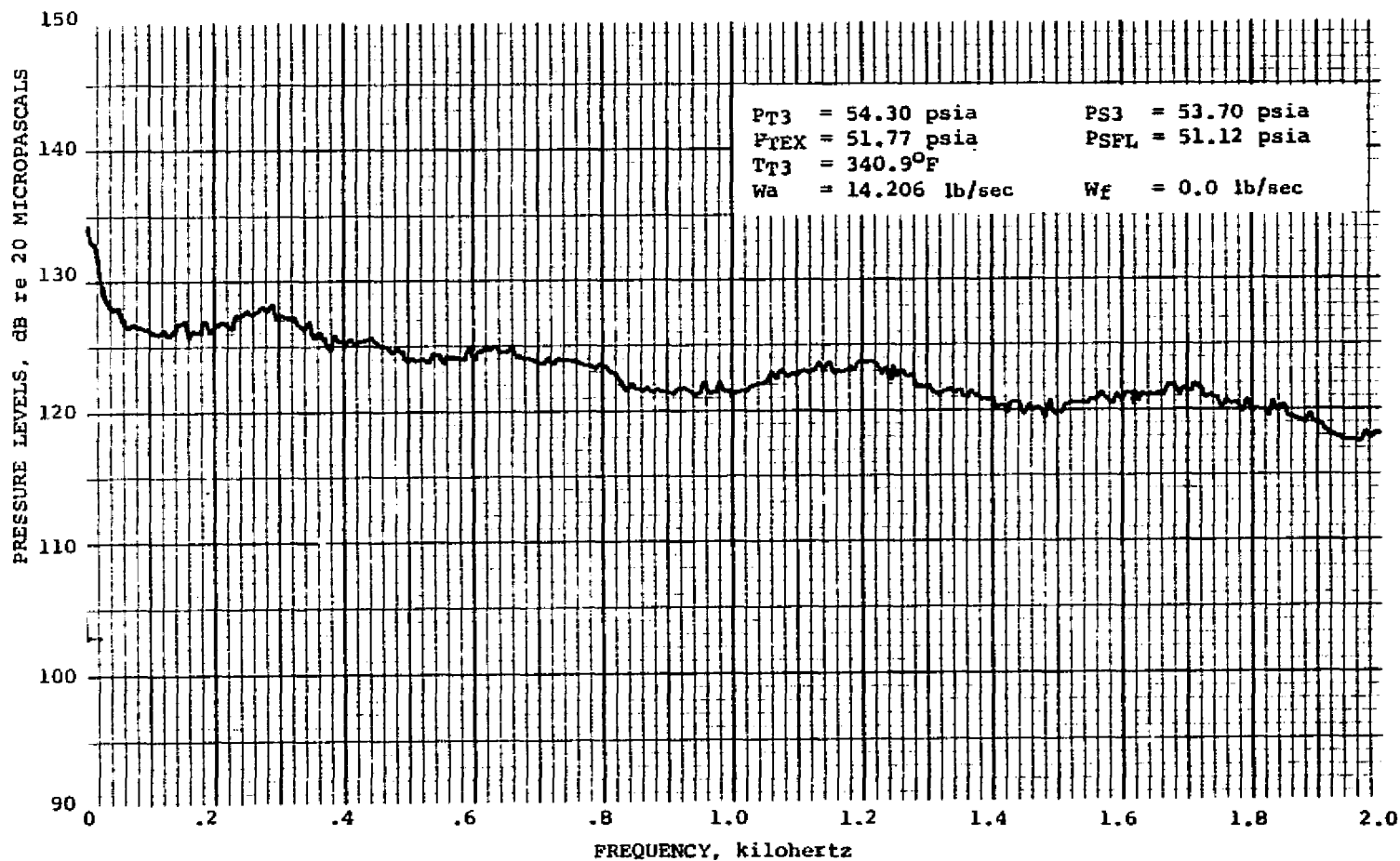
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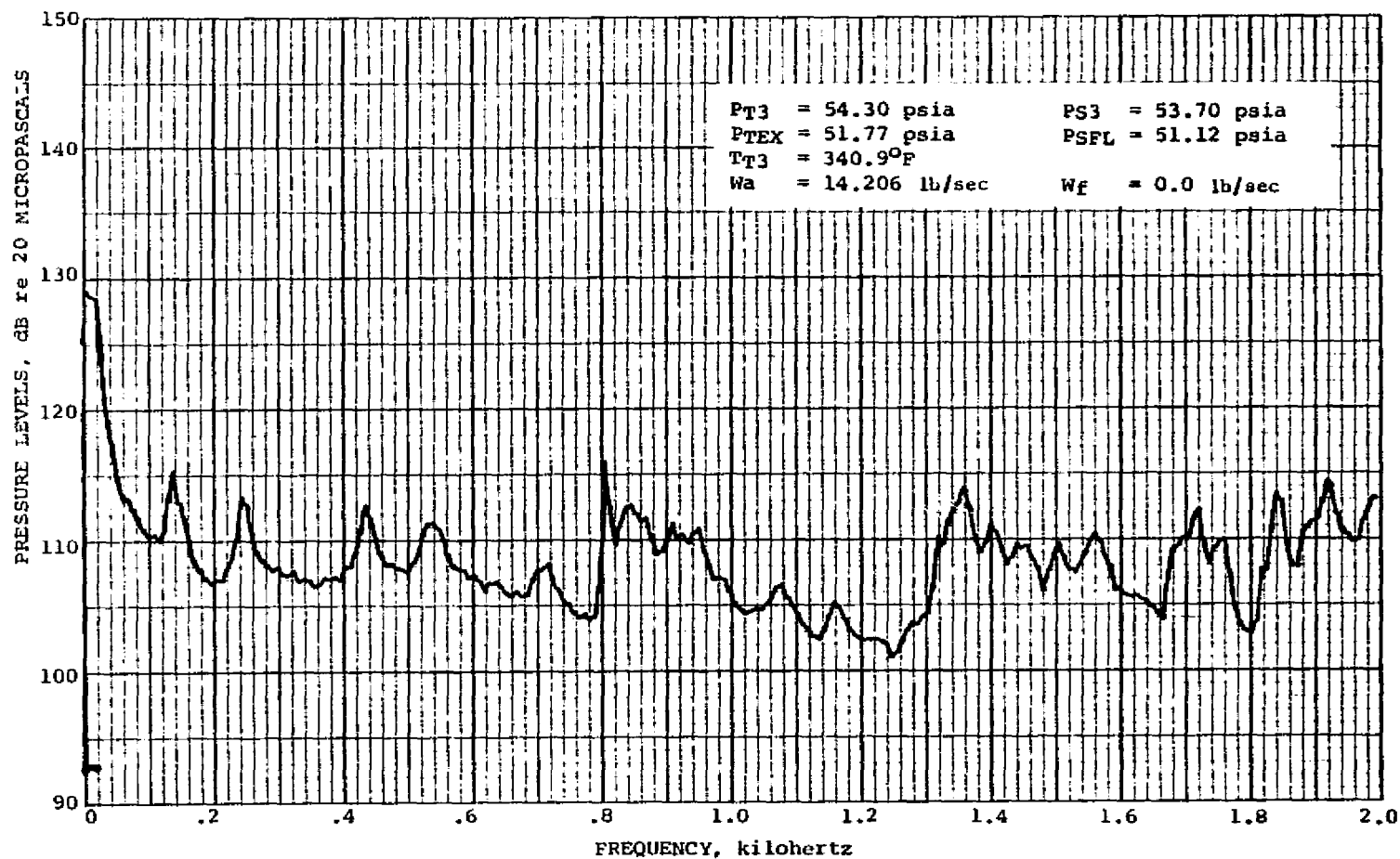
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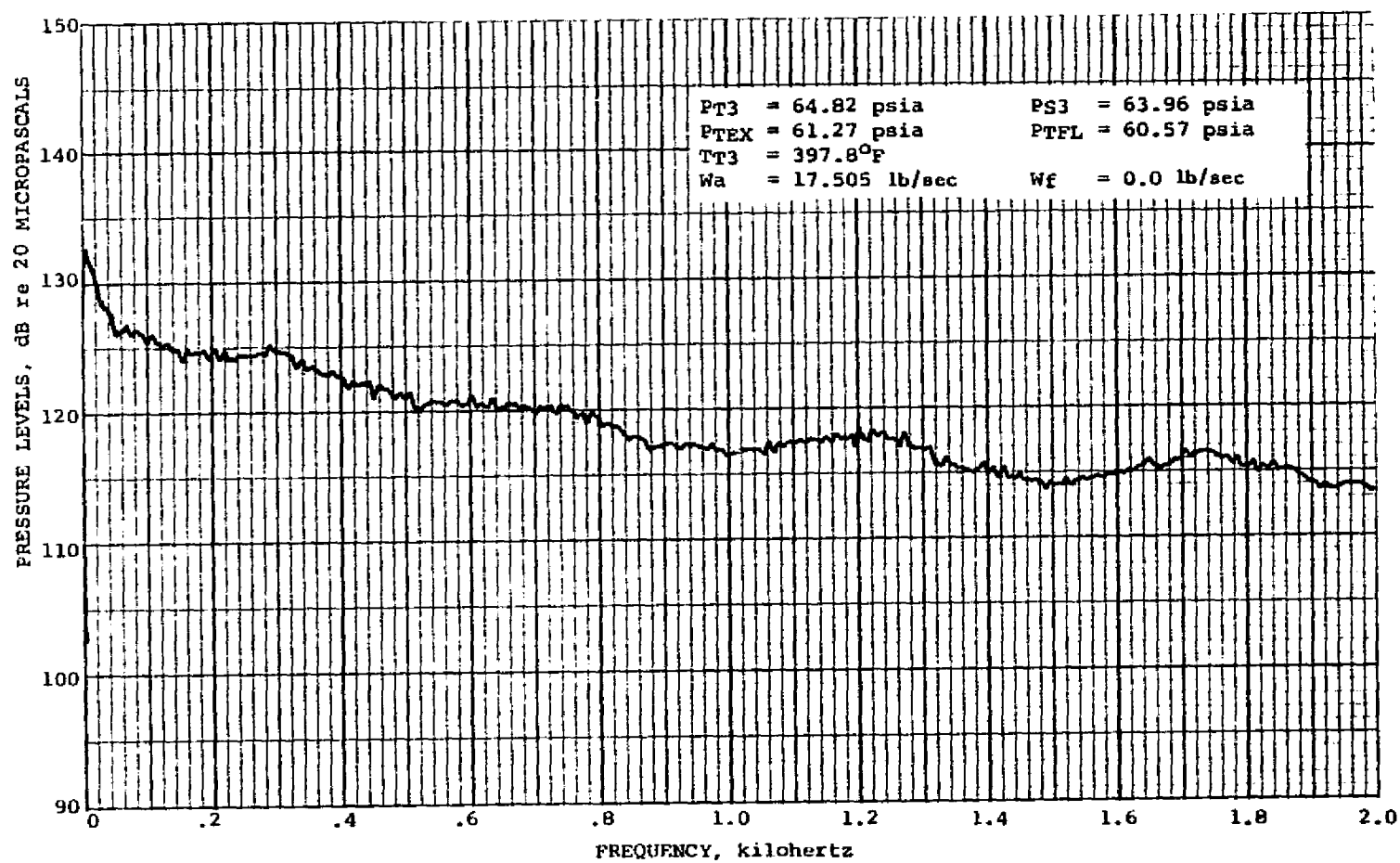
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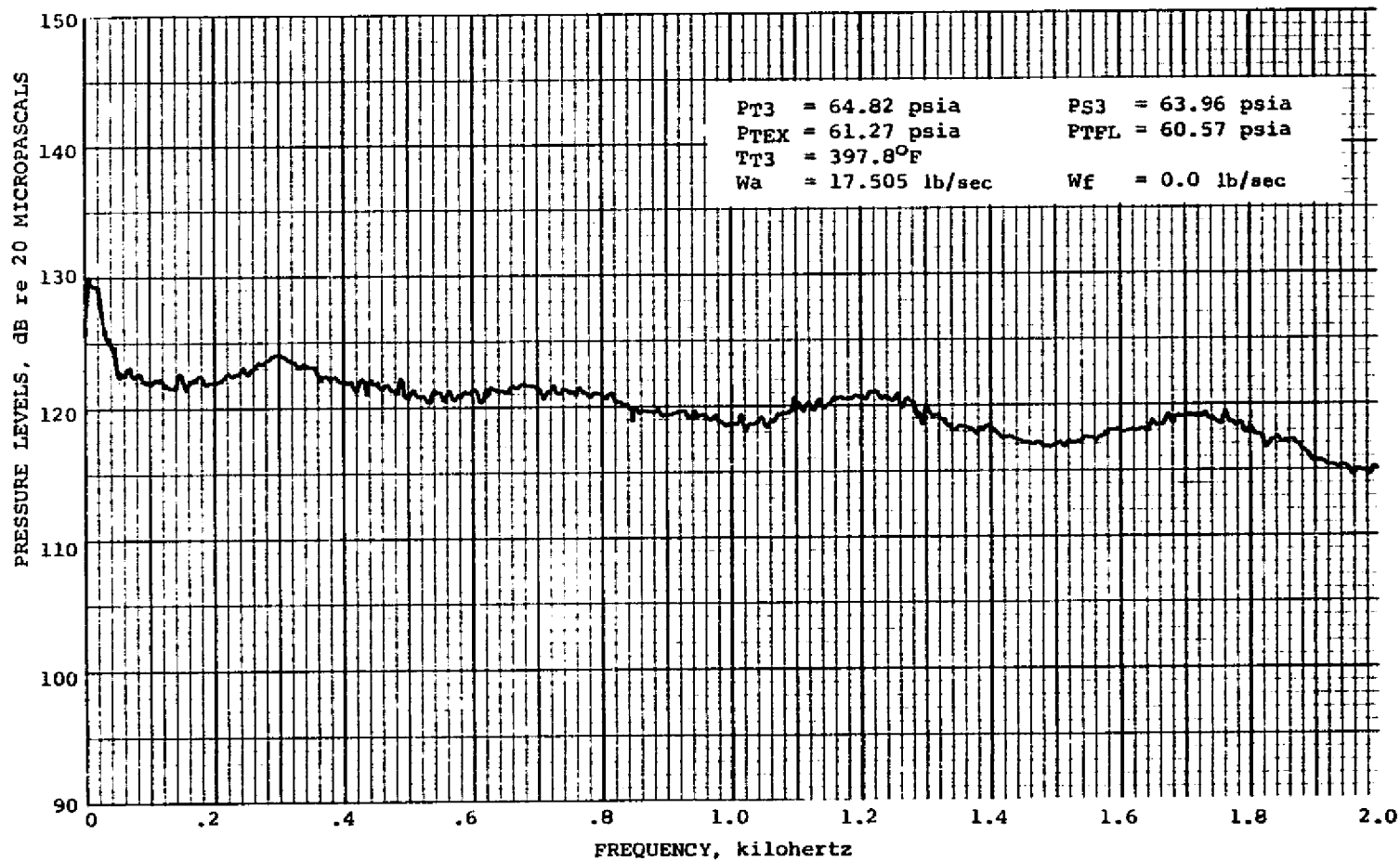
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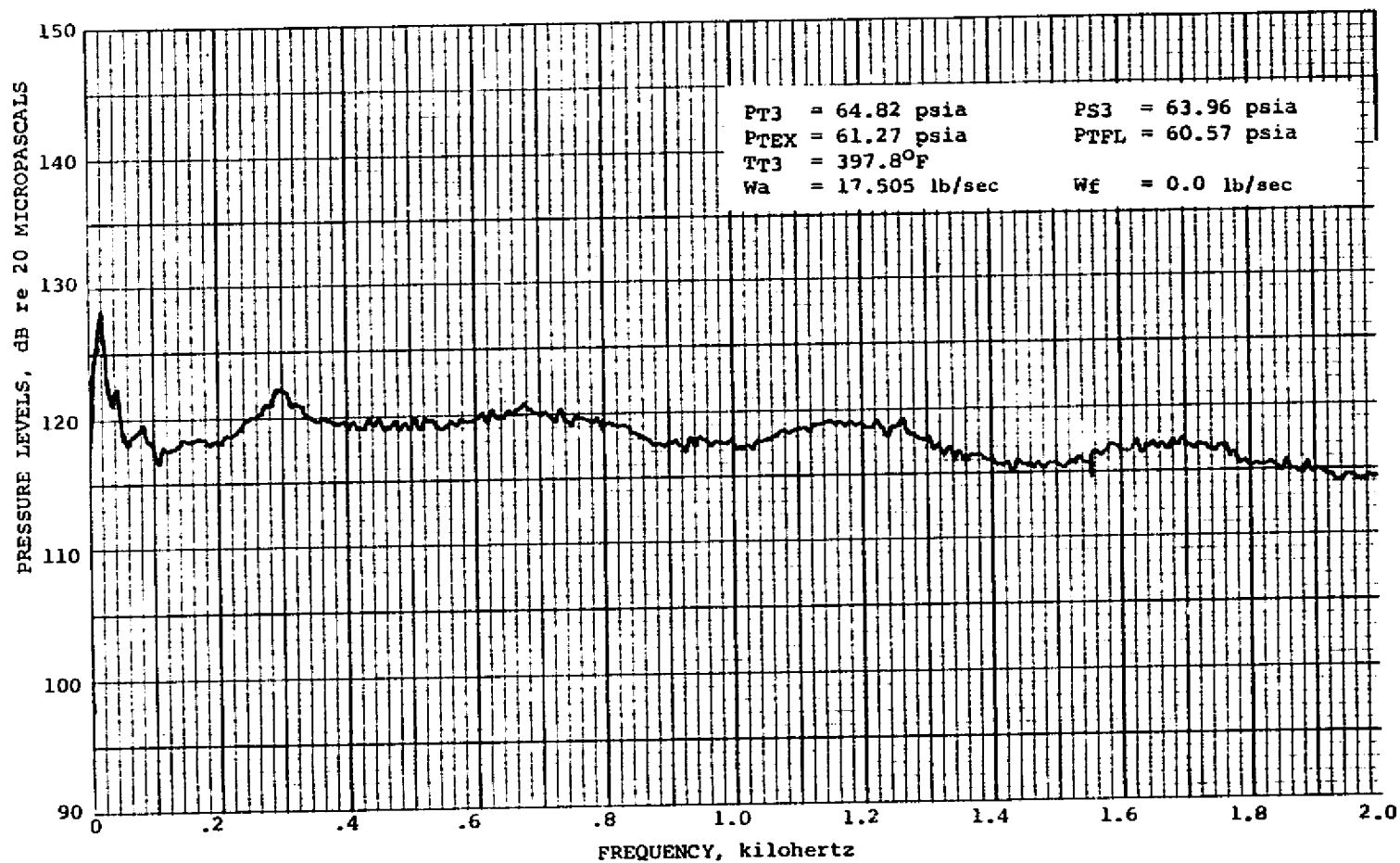
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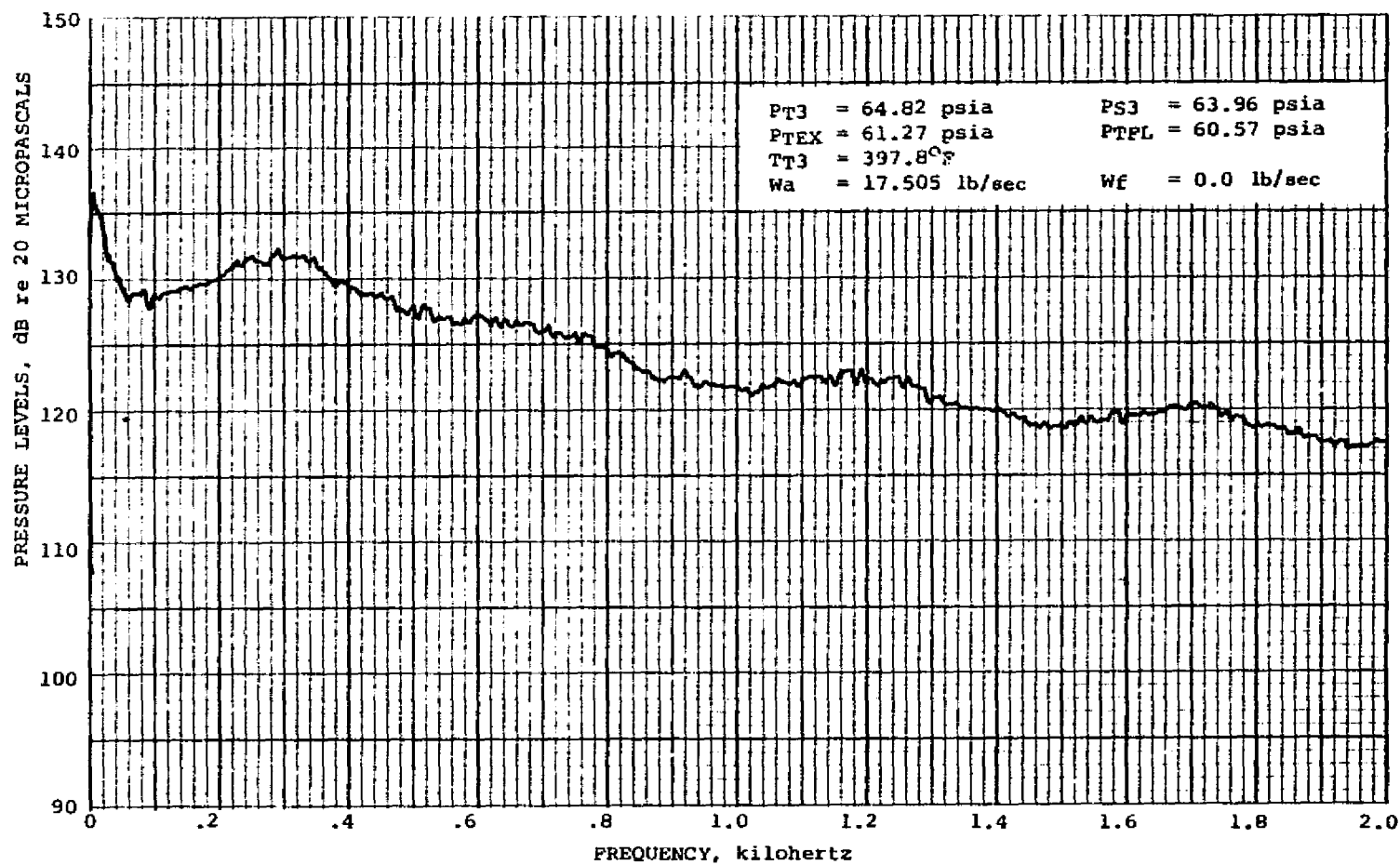
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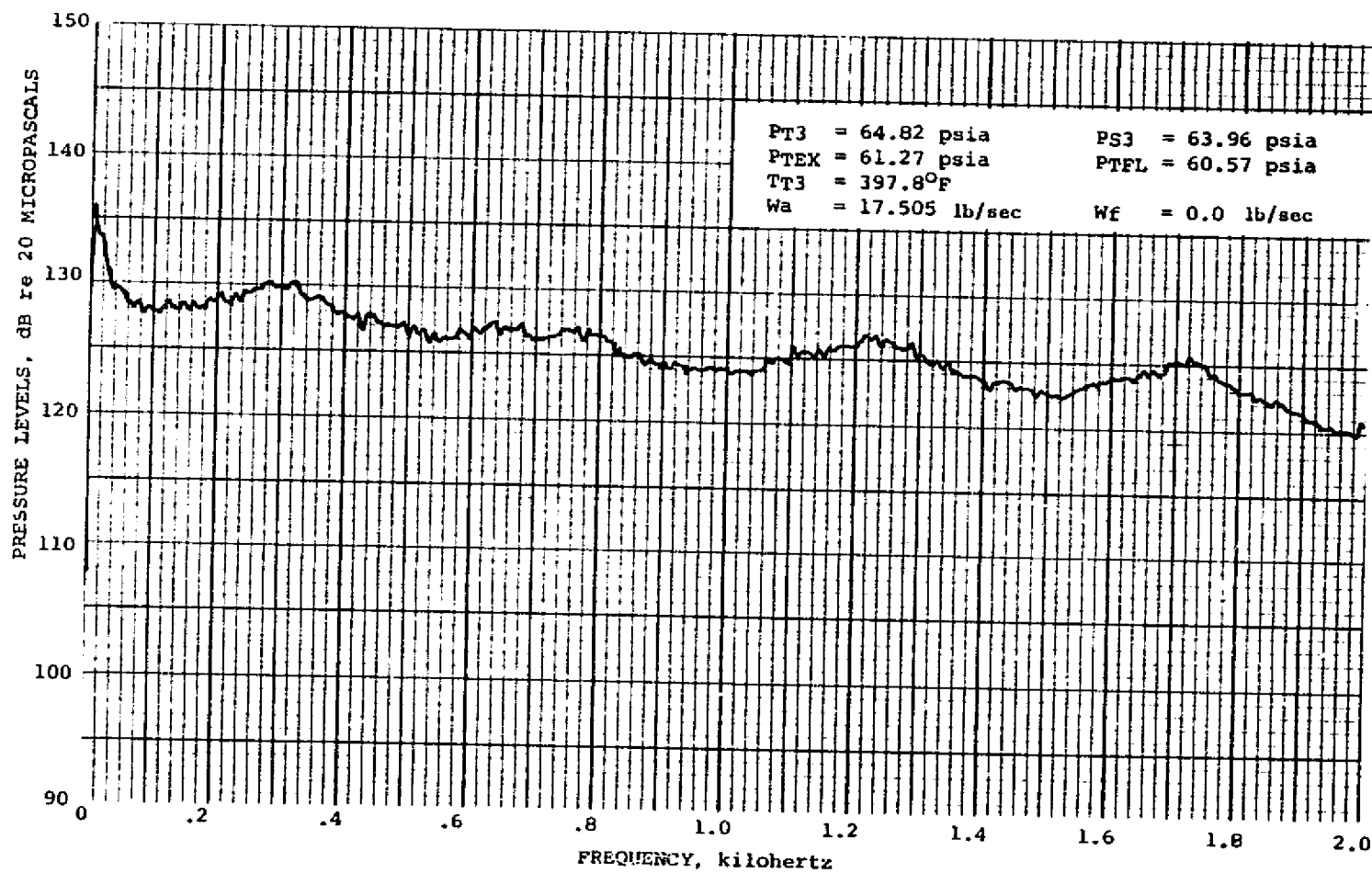
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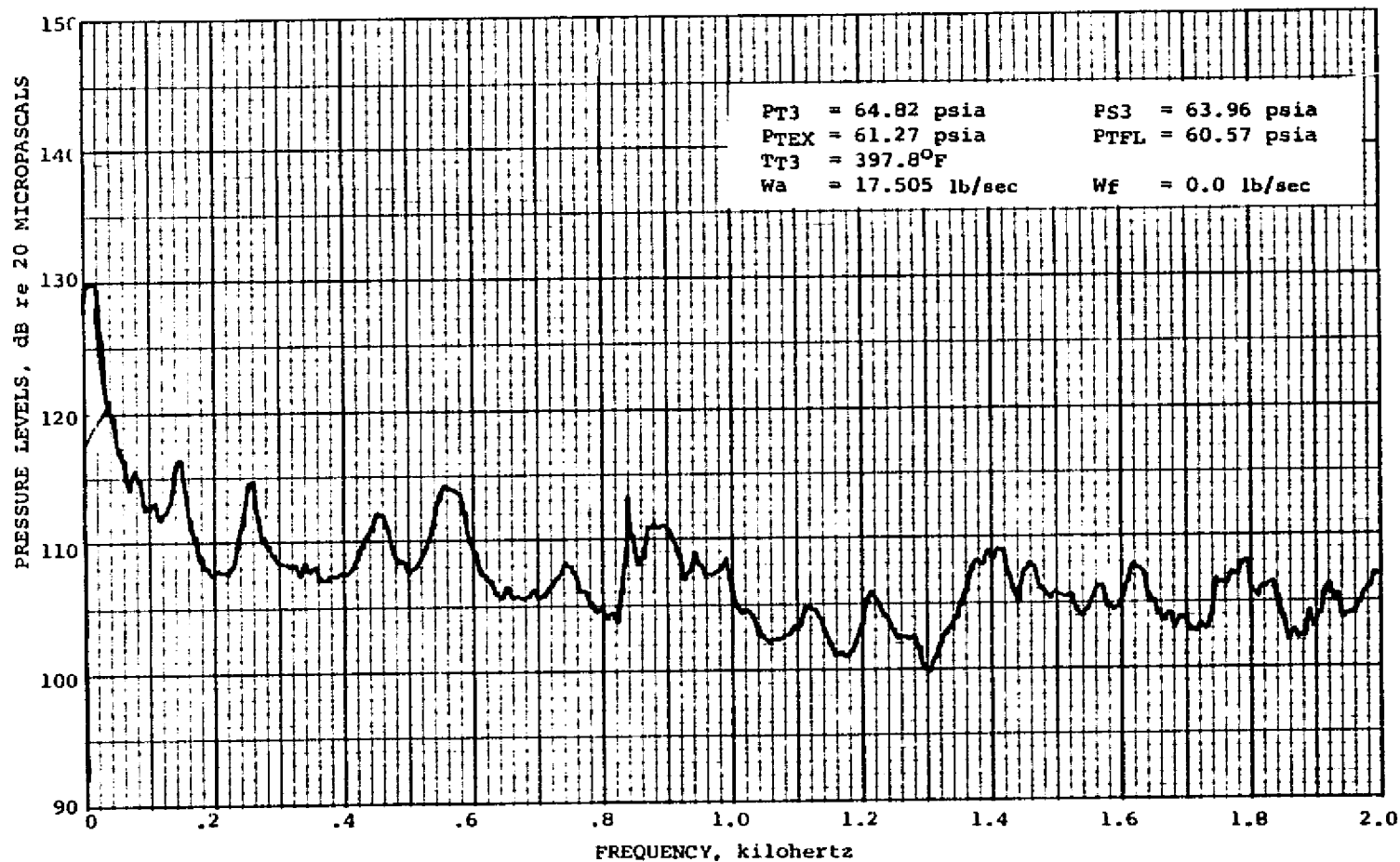
NARROW BAND SPECTRUM AT PROBE NUMBER 3 DURING RUN POINT NUMBER 8



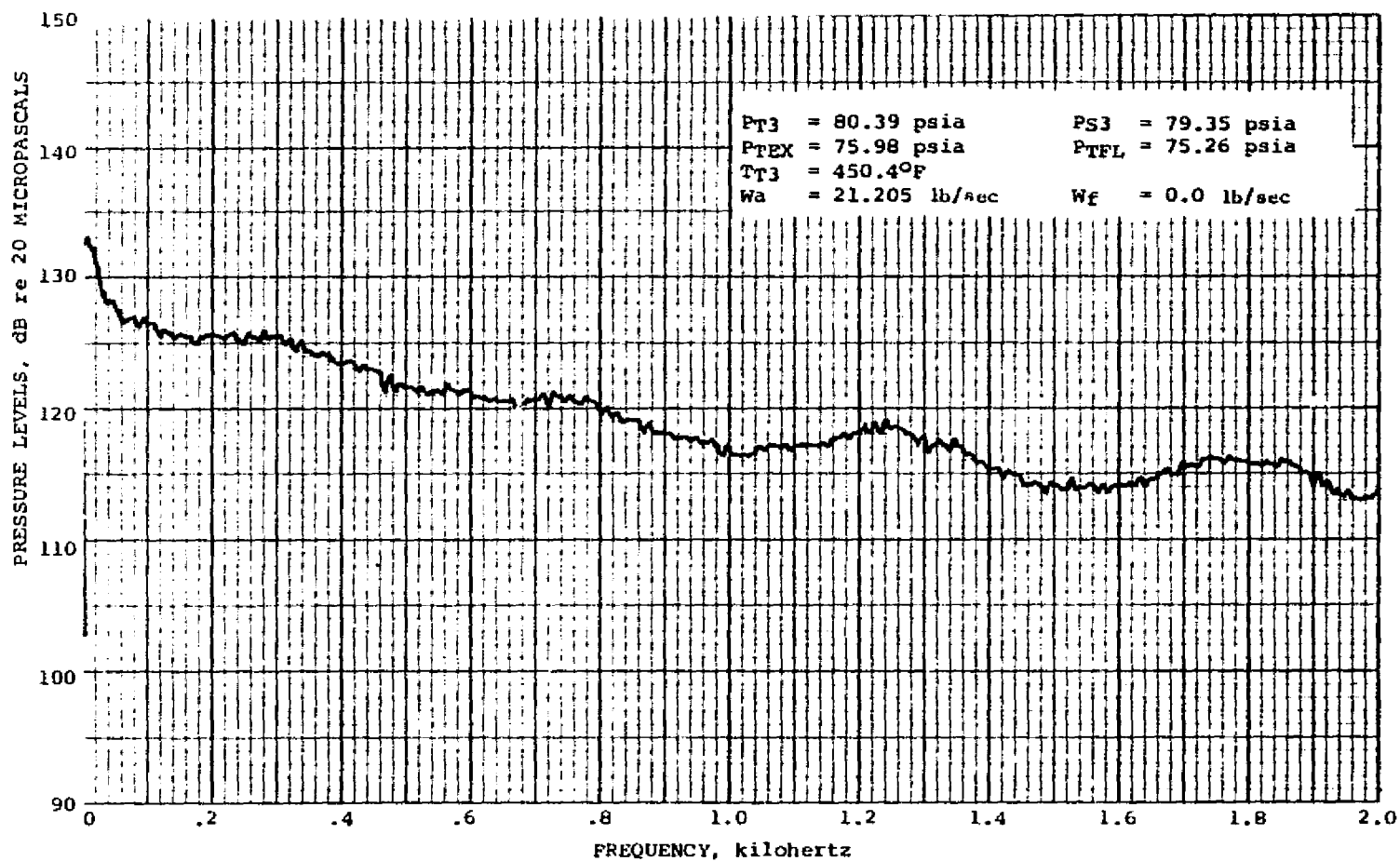
NARROW BAND SPECTRUM AT PROBE NUMBER 4 DURING RUN POINT NUMBER 8



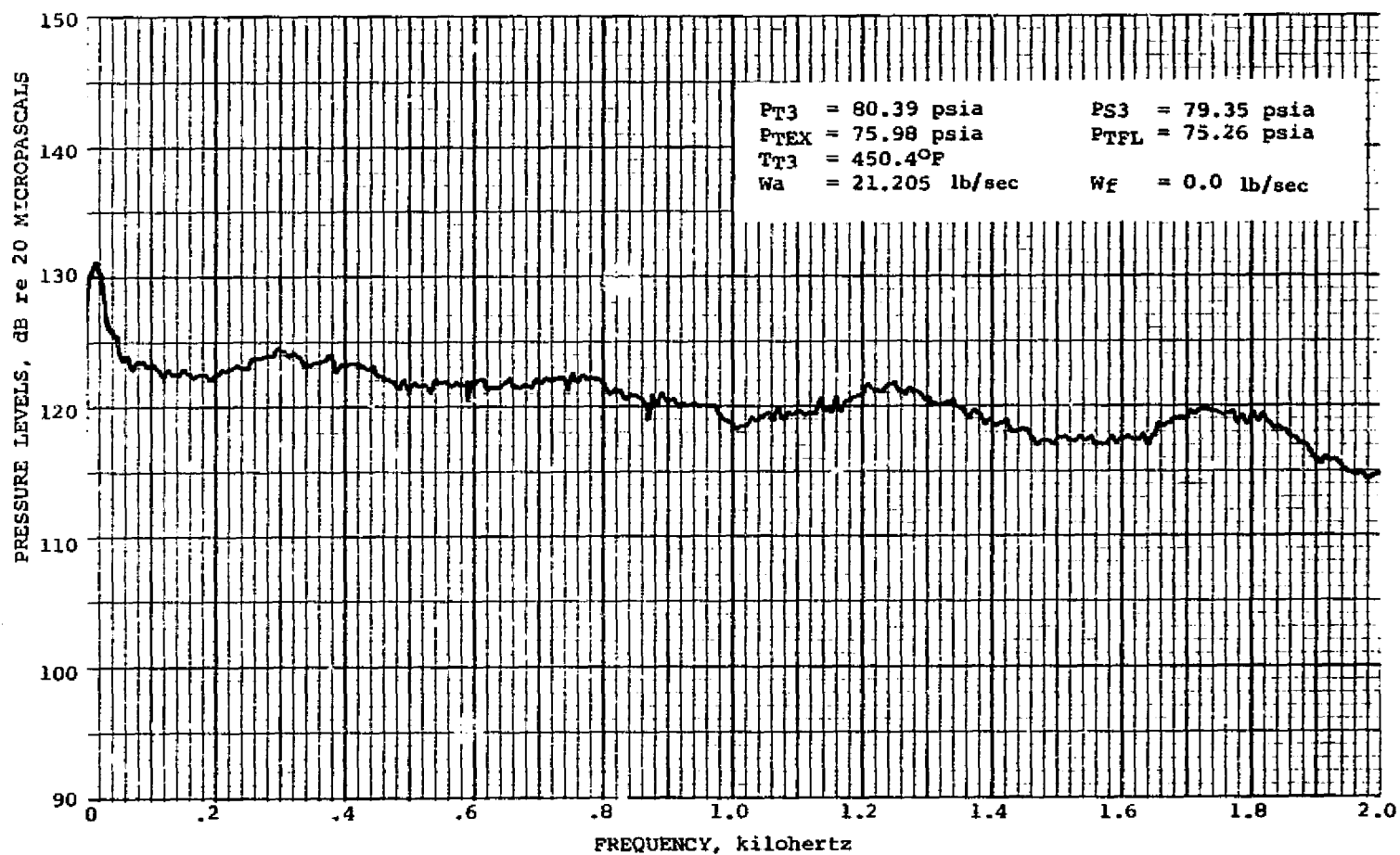
NARROW BAND SPECTRUM AT PROBE NUMBER 5 DURING RUN POINT NUMBER 8



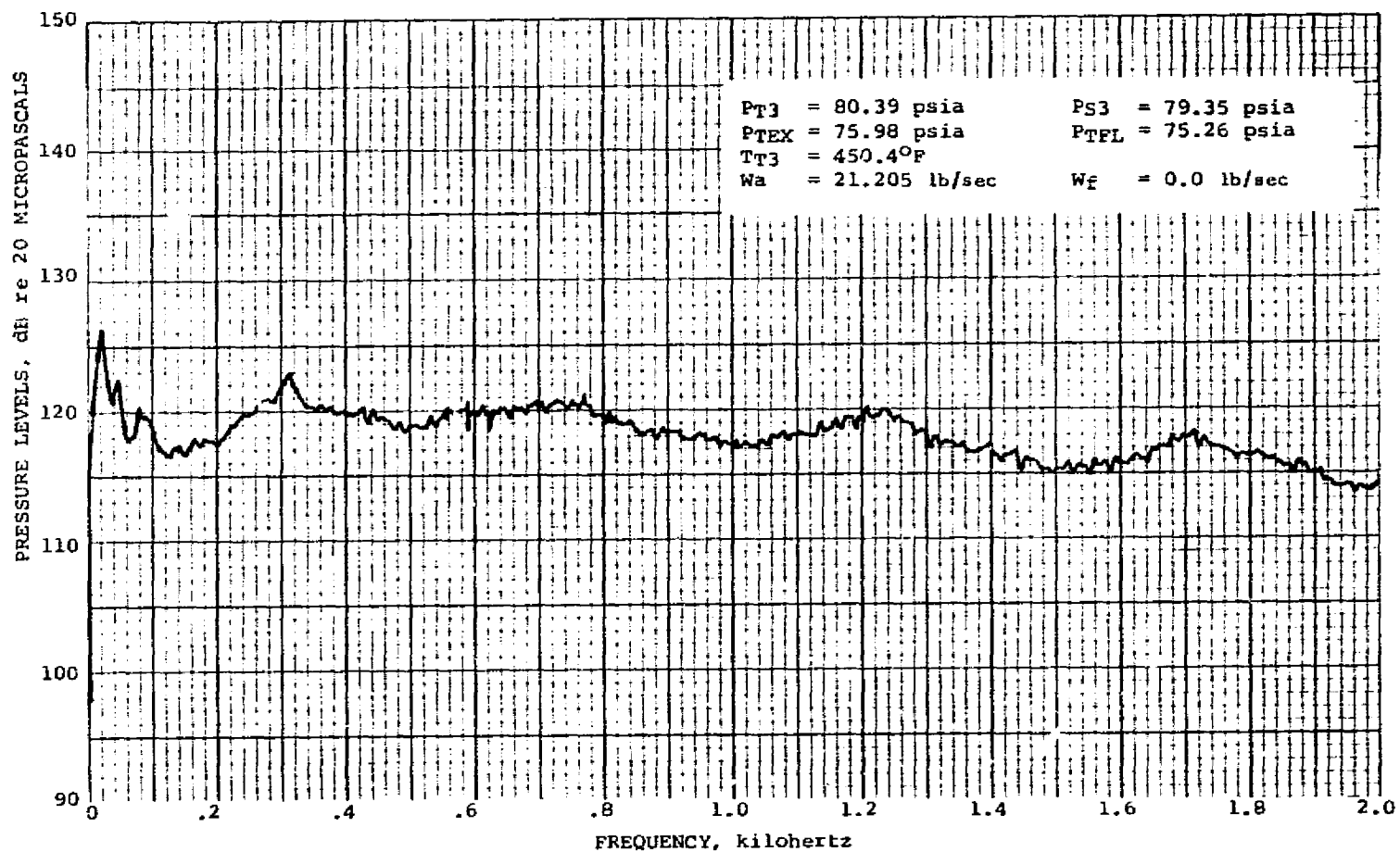
NARROW BAND SPECTRUM AT PROBE NUMBER 6 DURING RUN POINT NUMBER 8



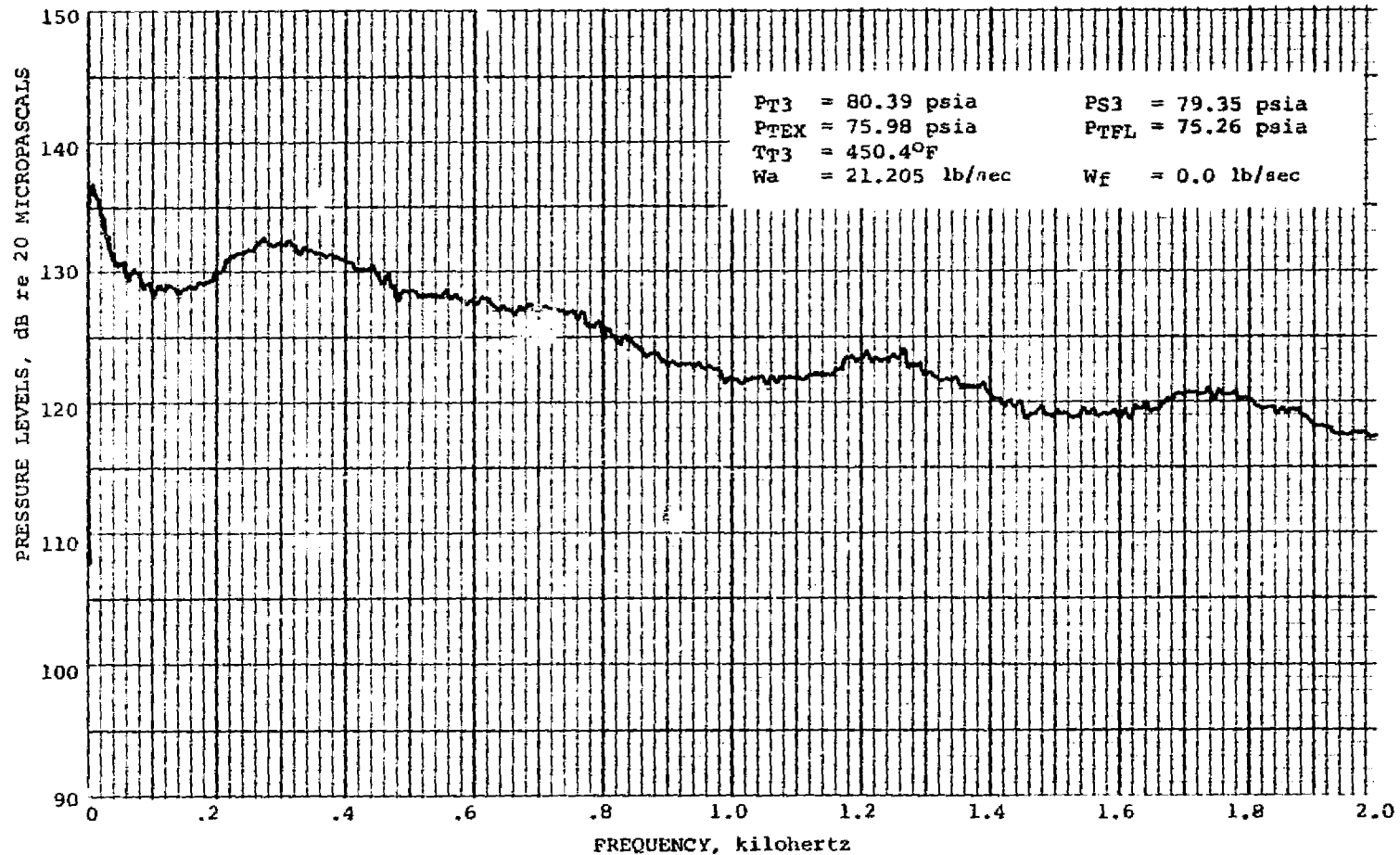
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 9



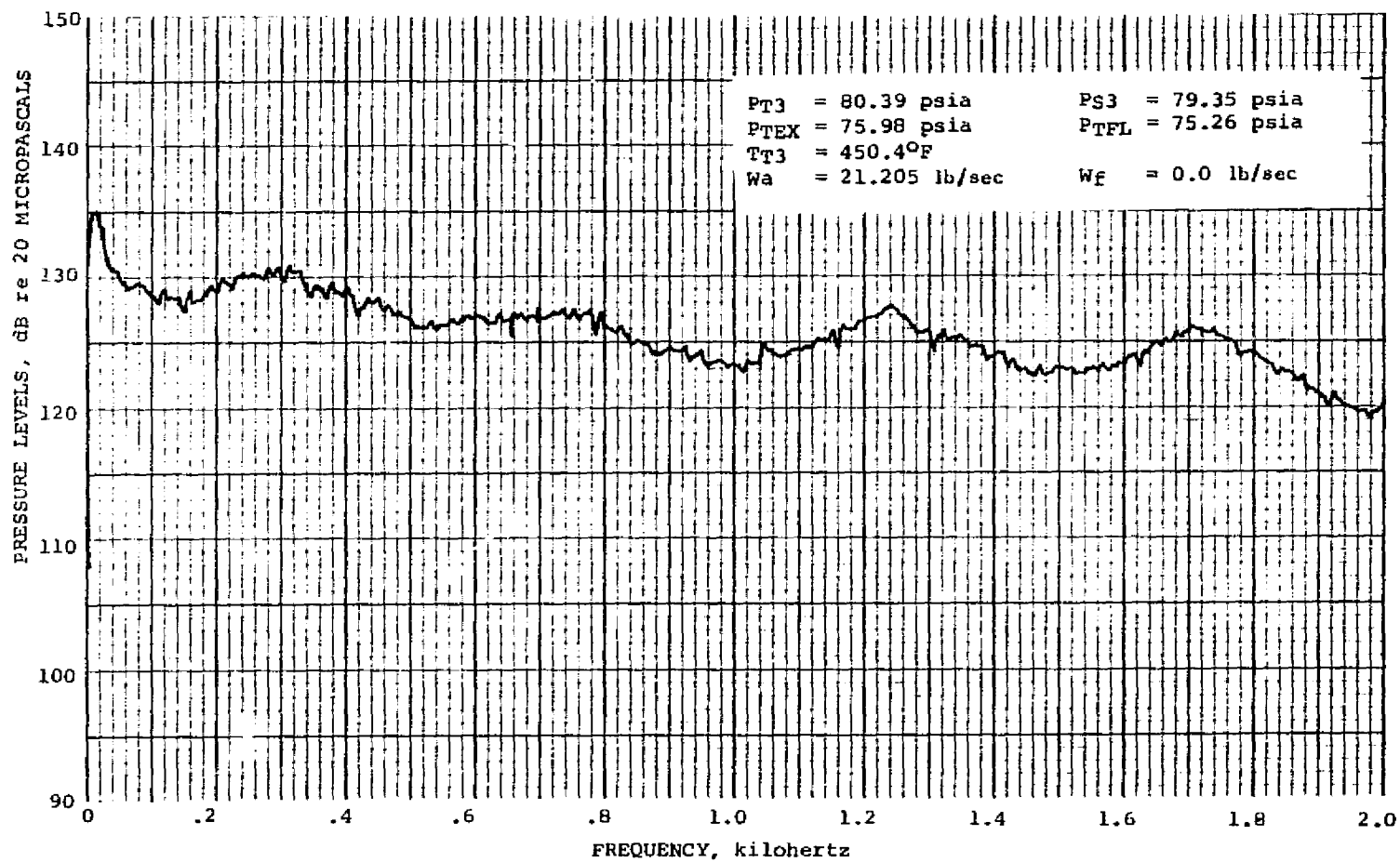
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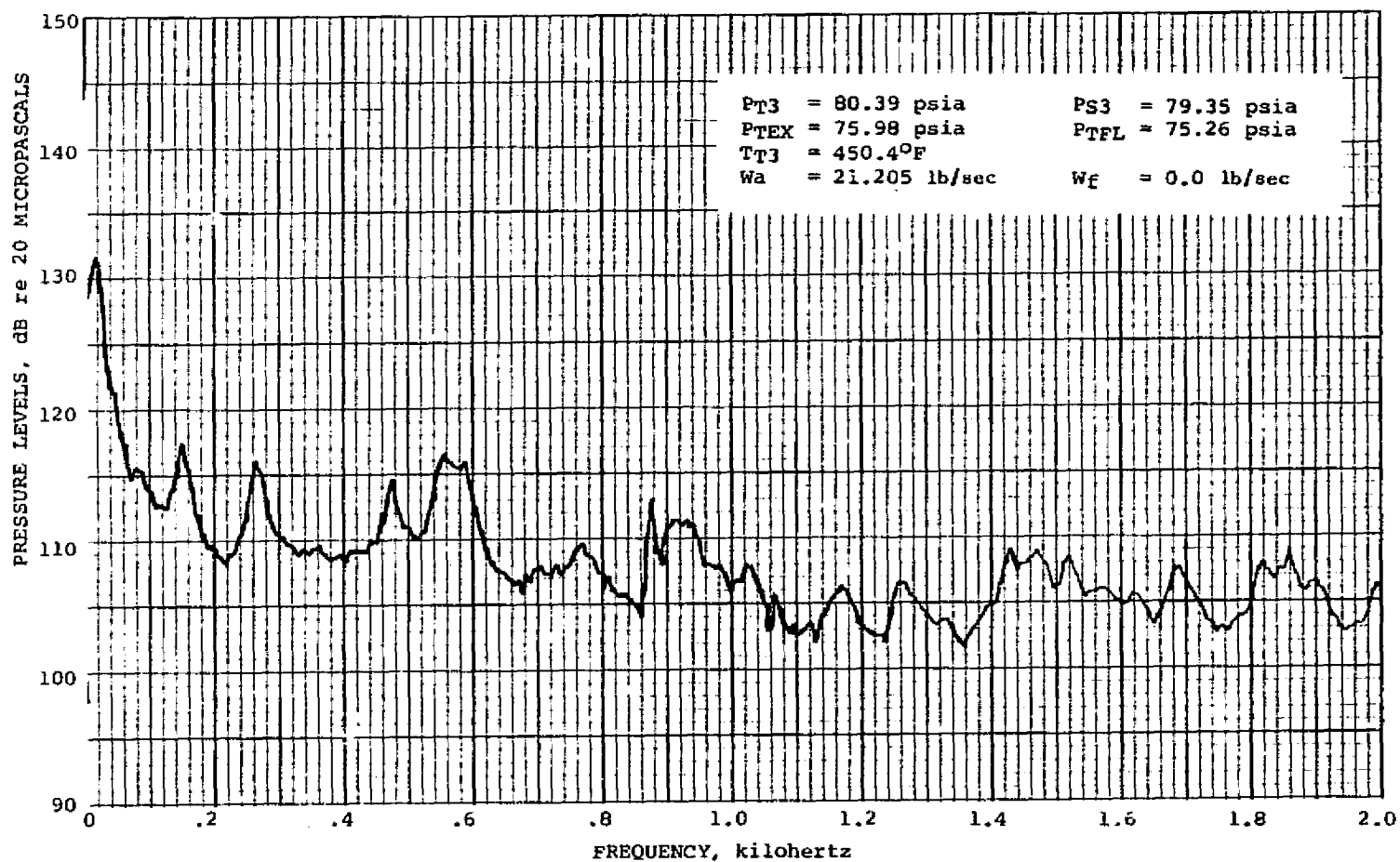
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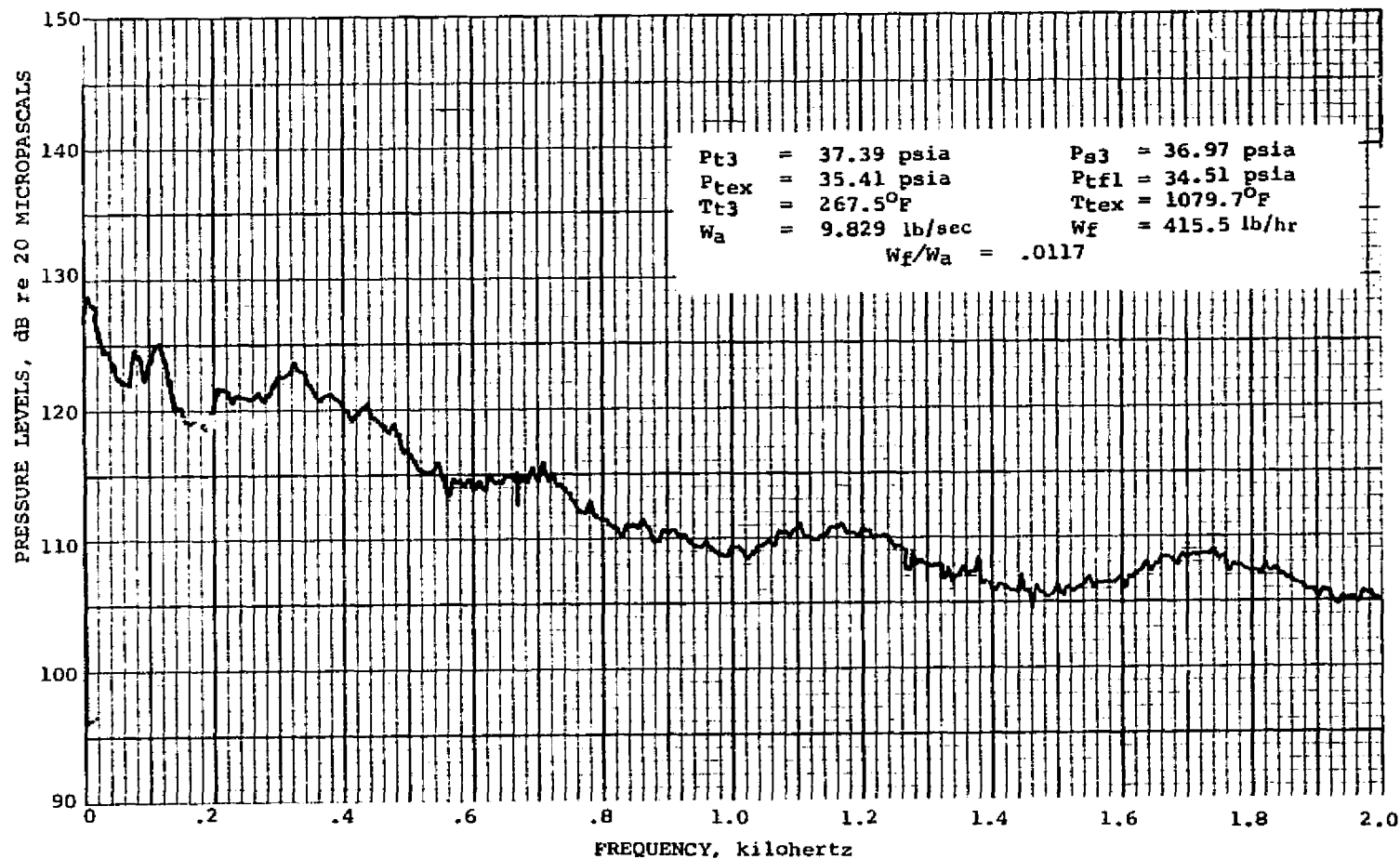
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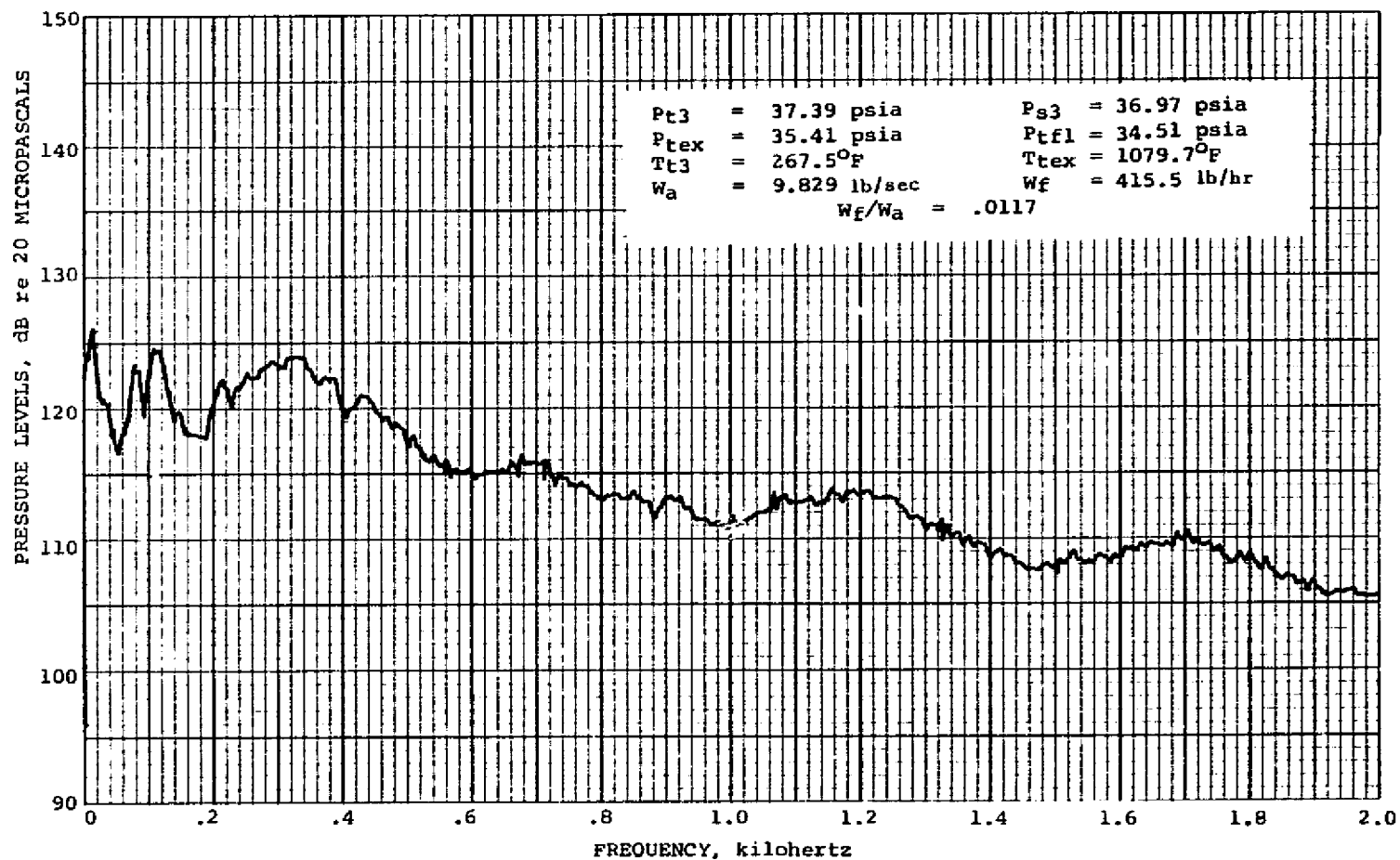
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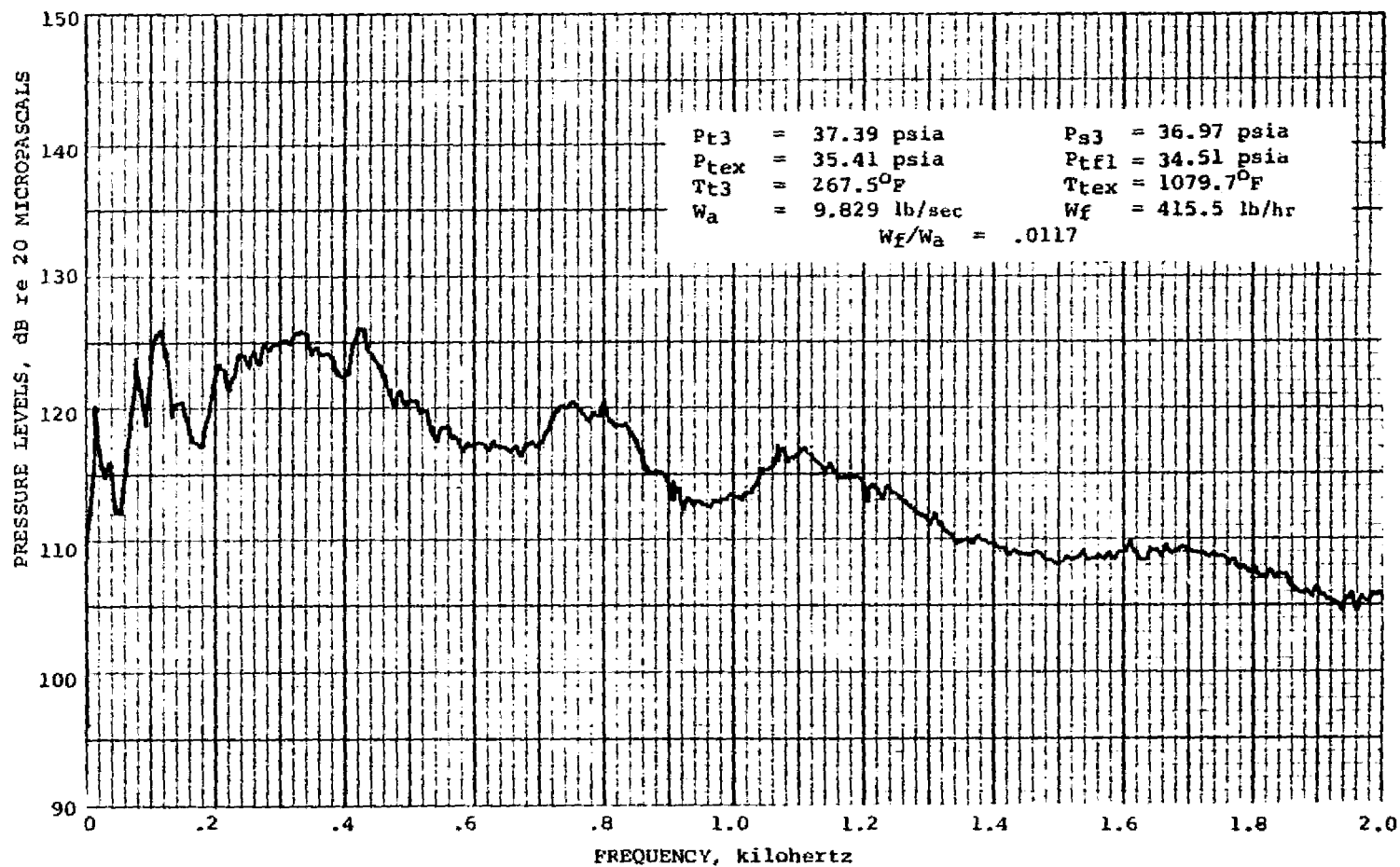
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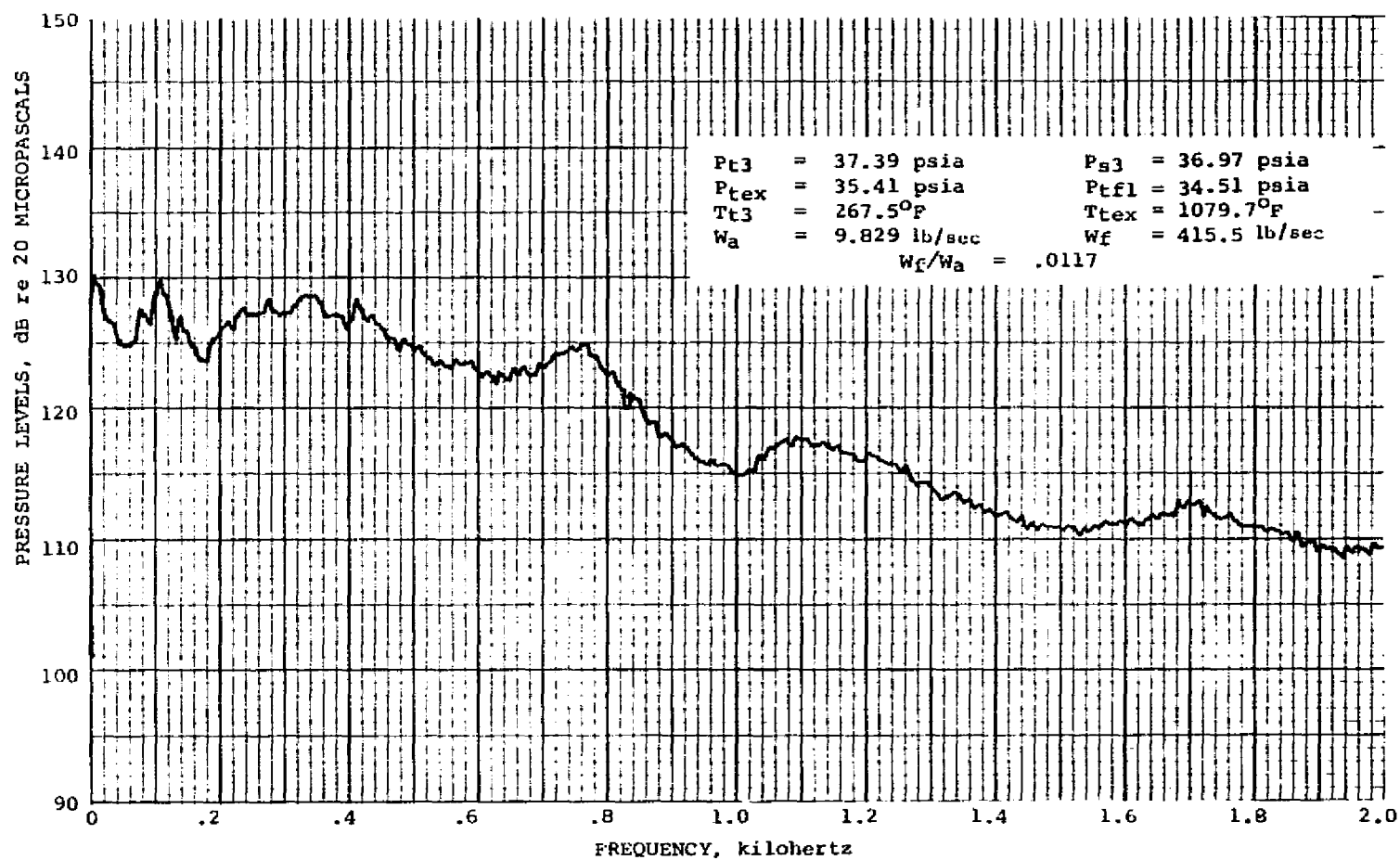
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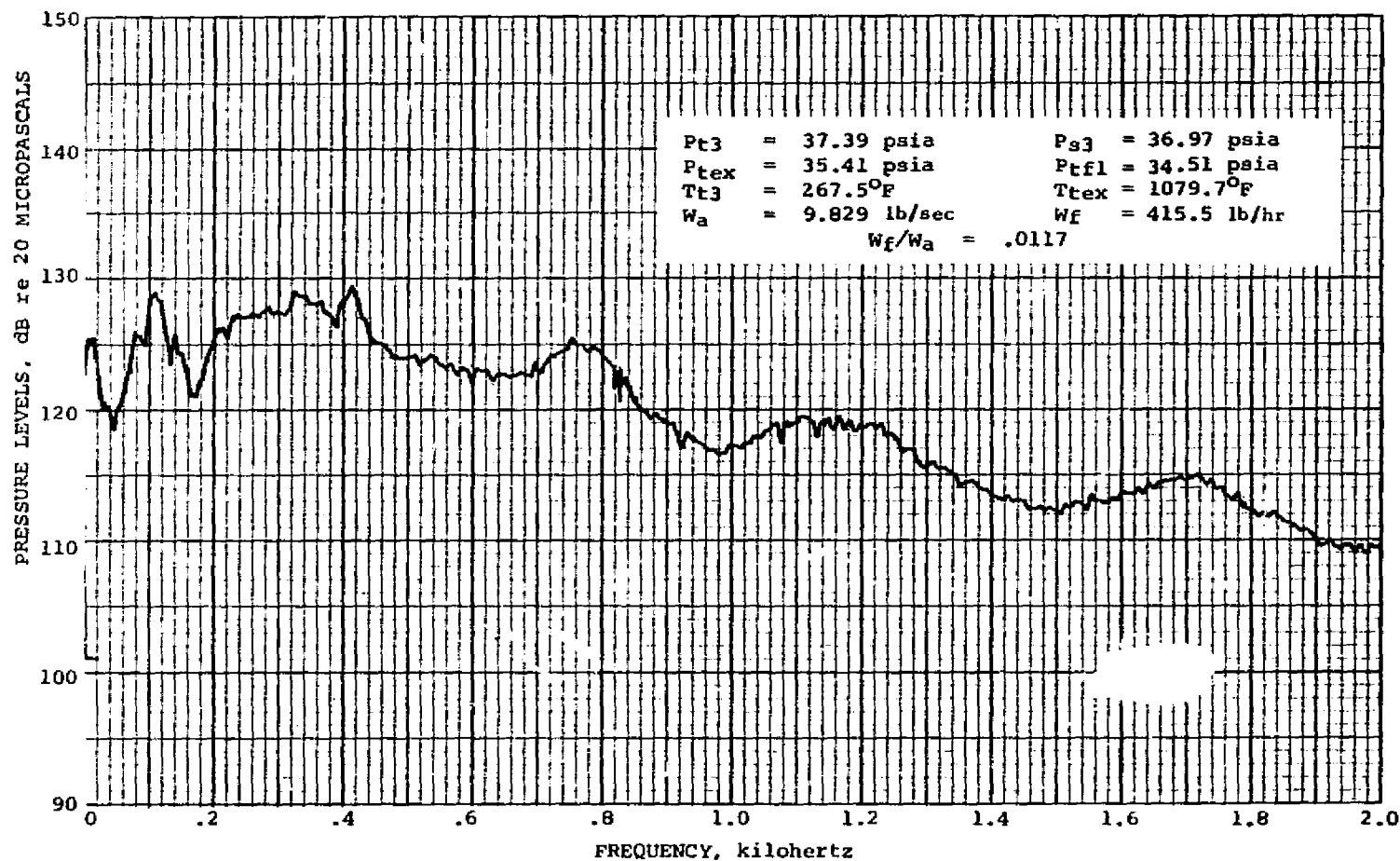
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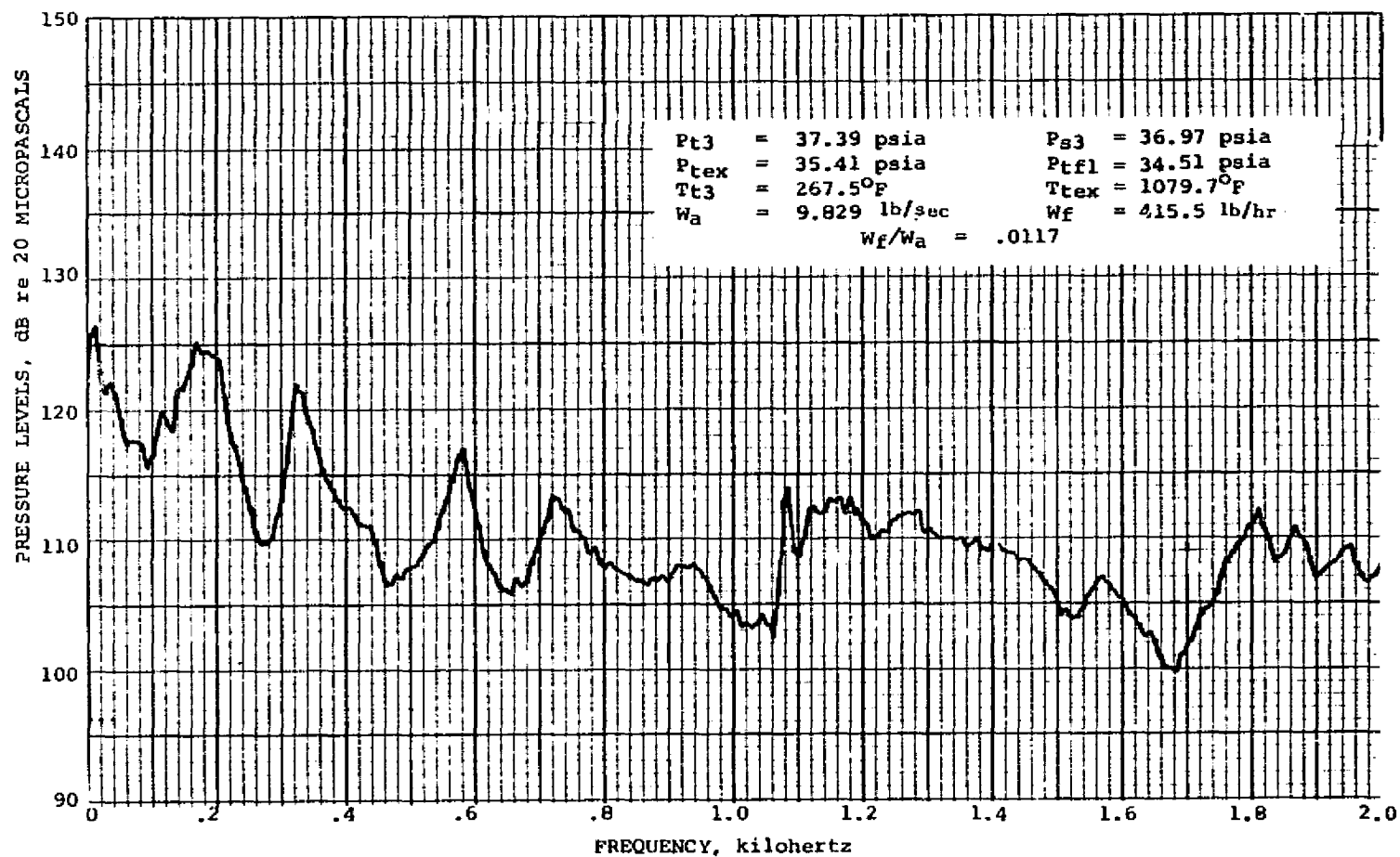
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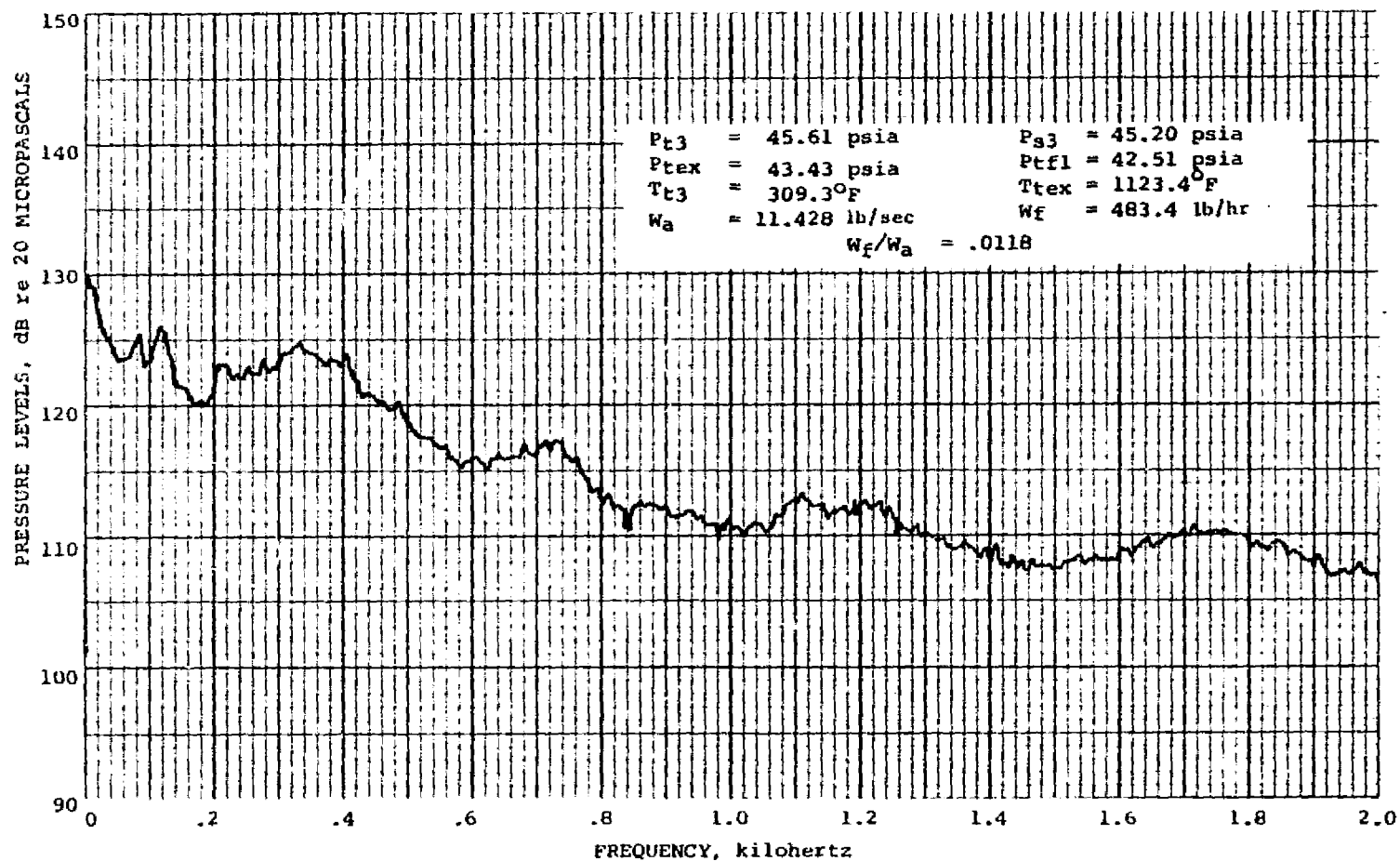
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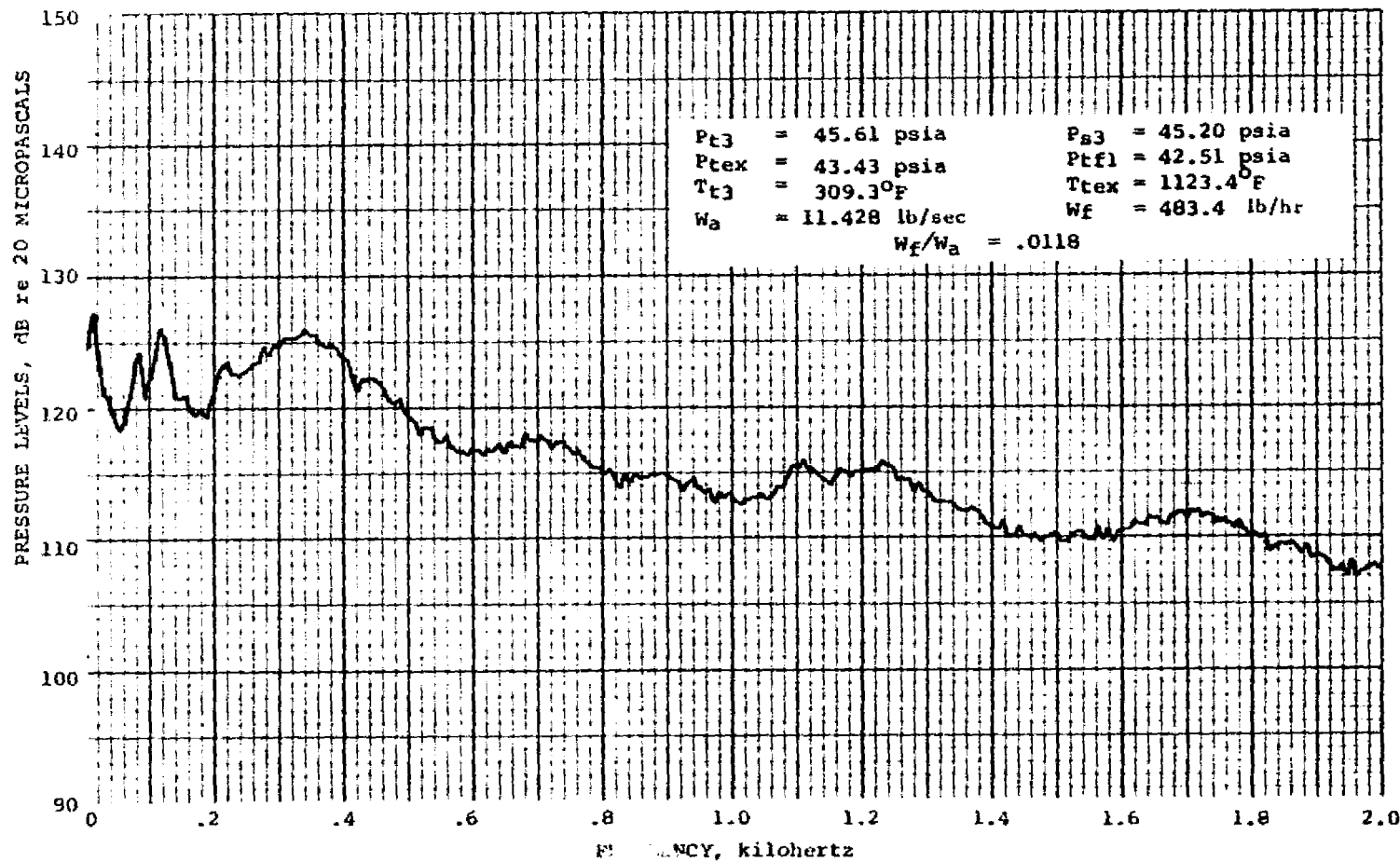
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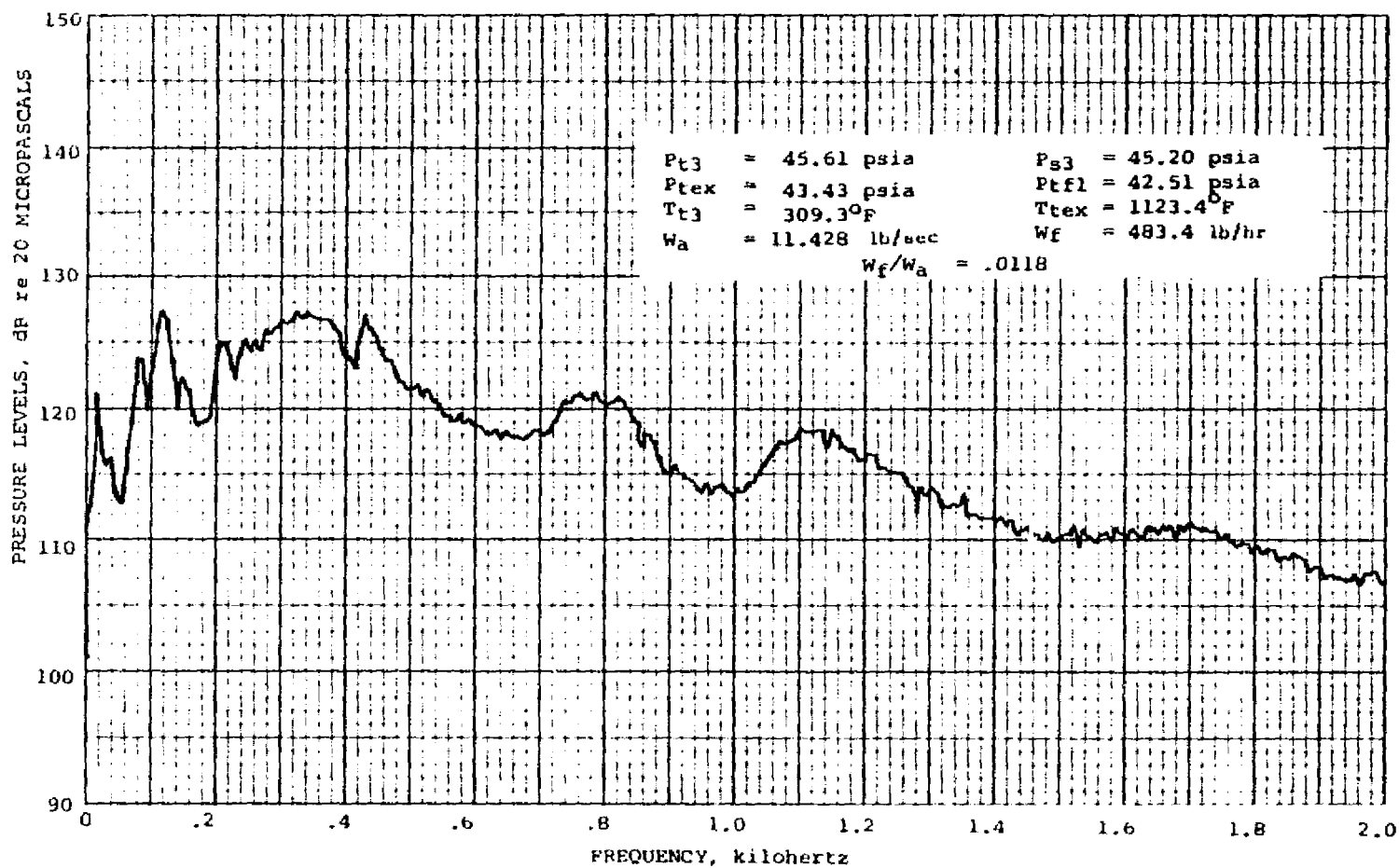
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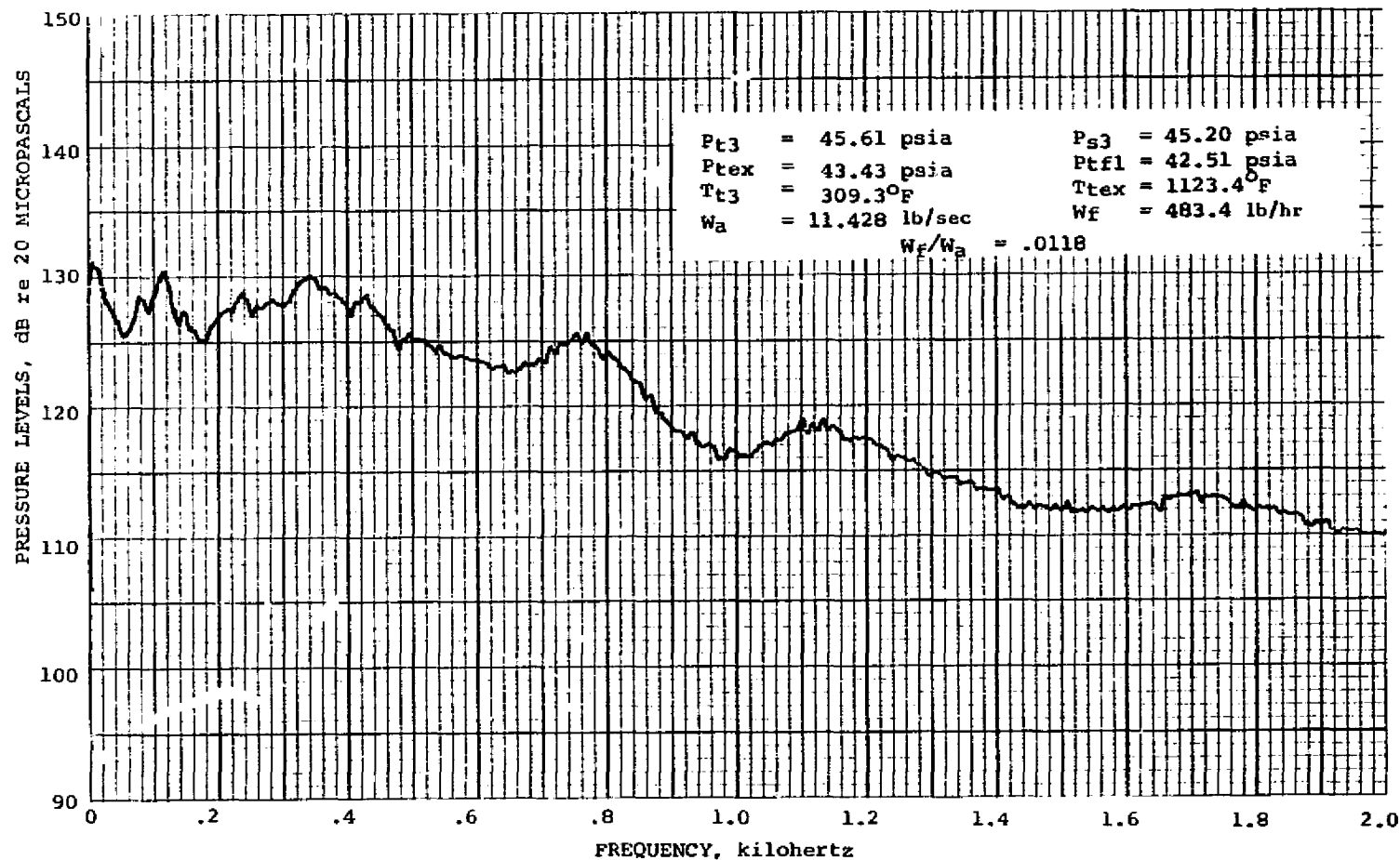
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 20



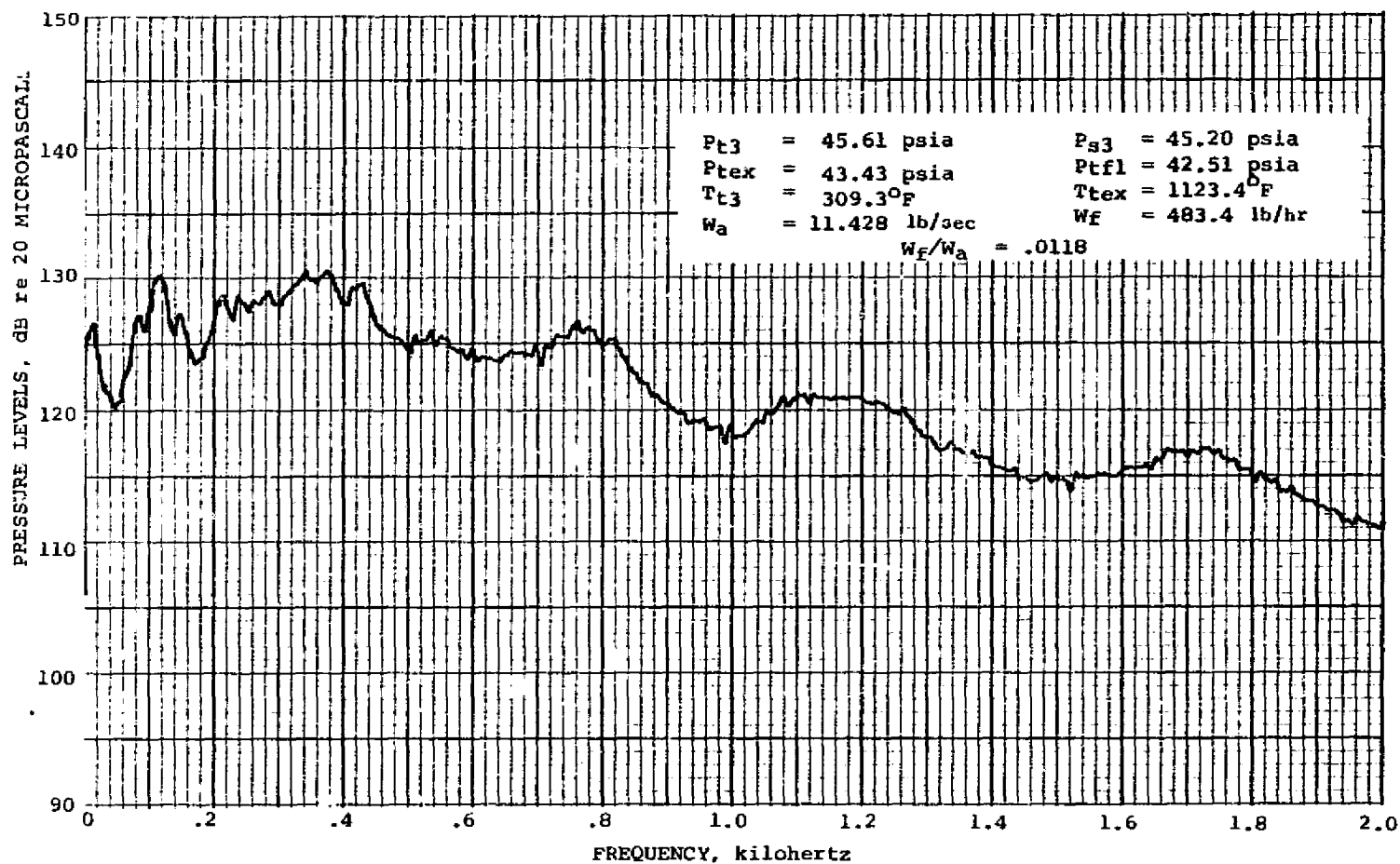
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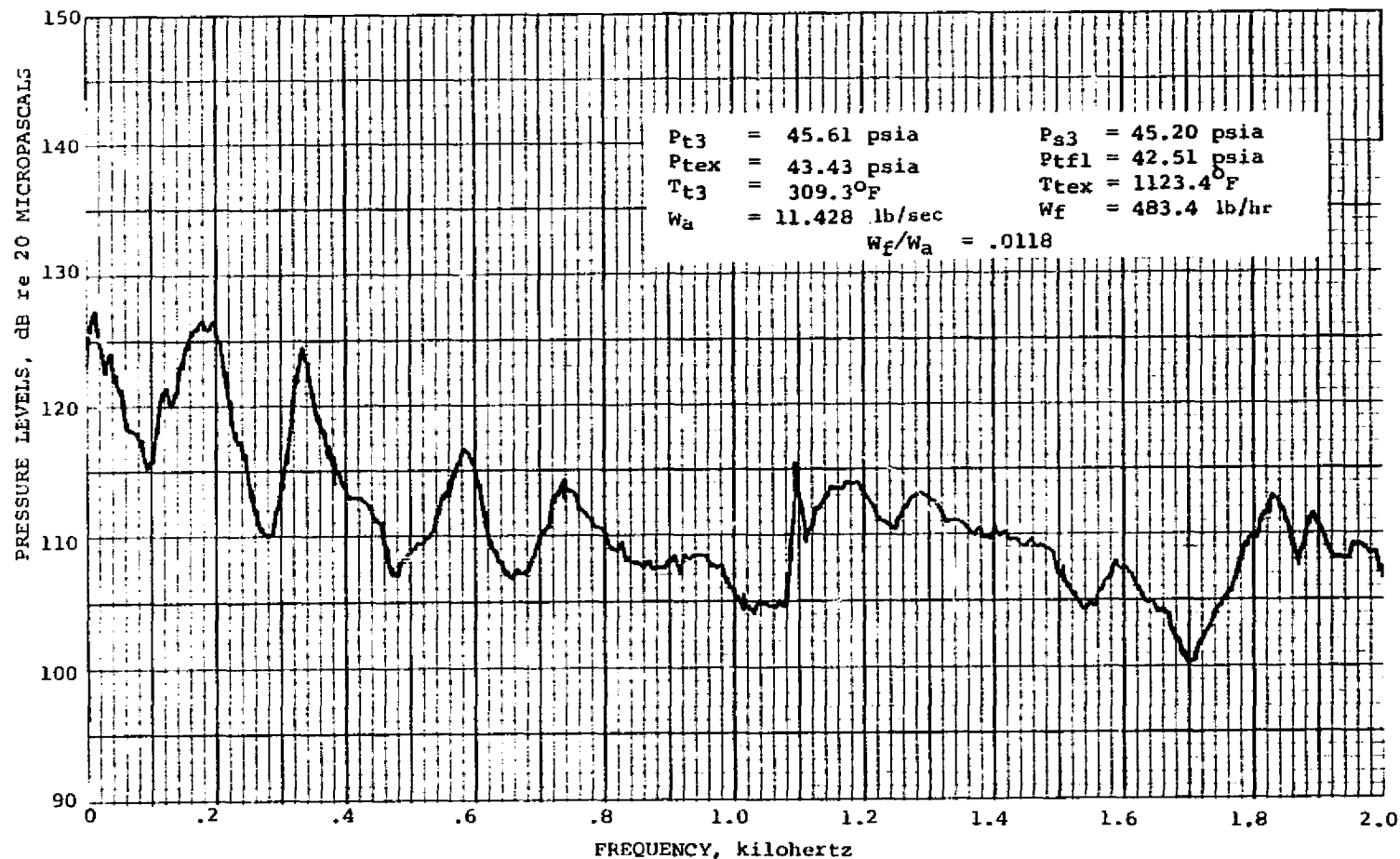
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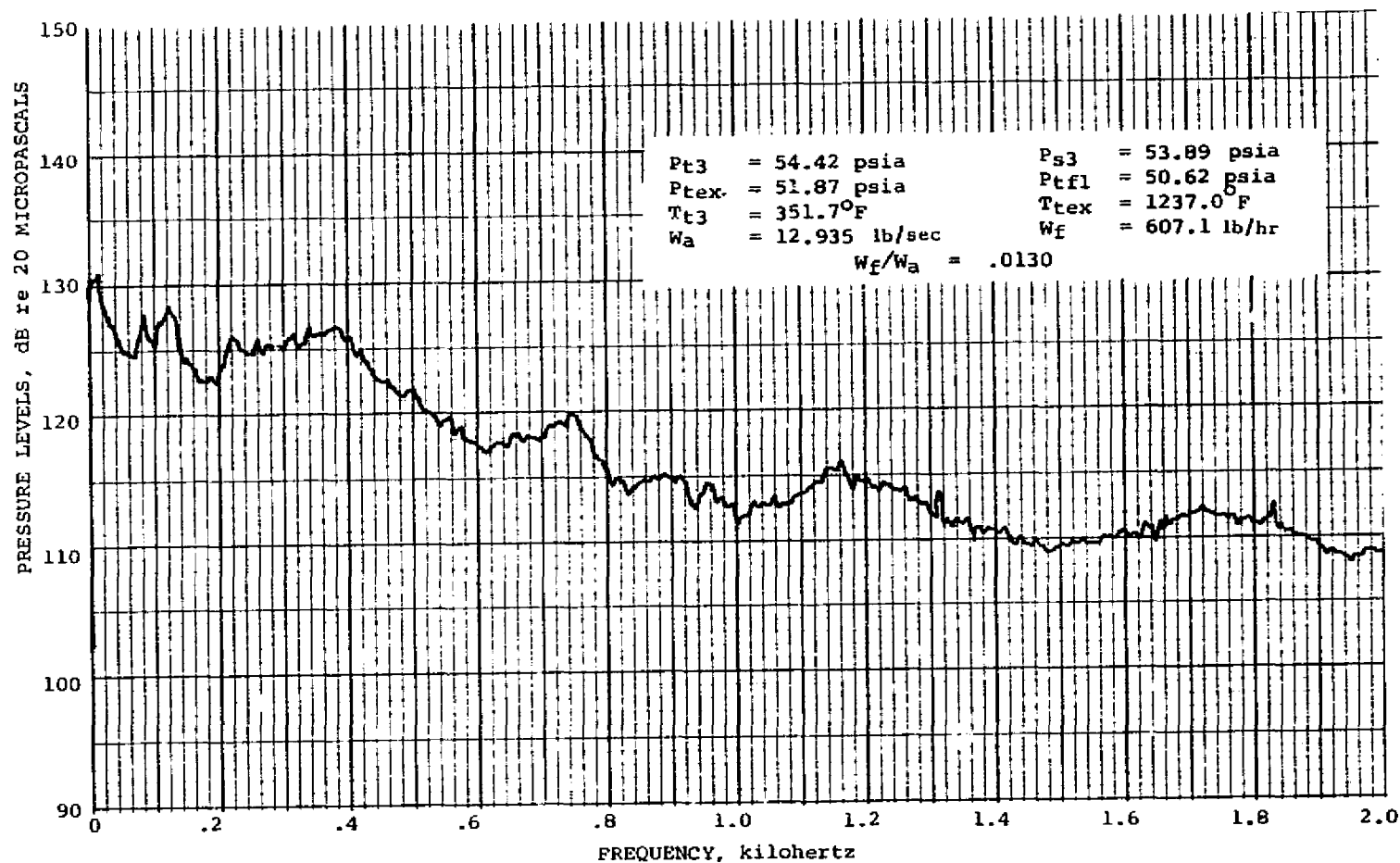
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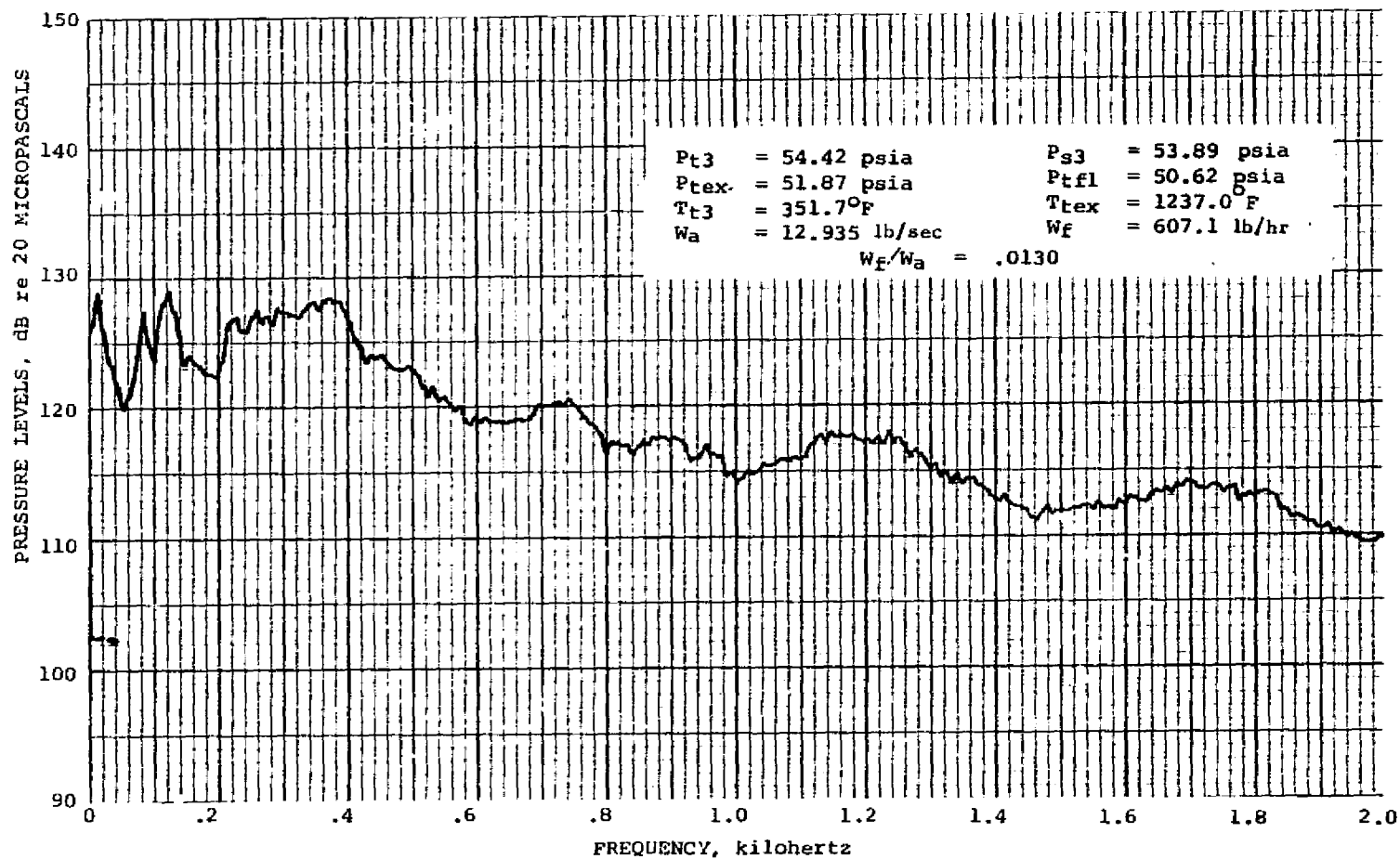
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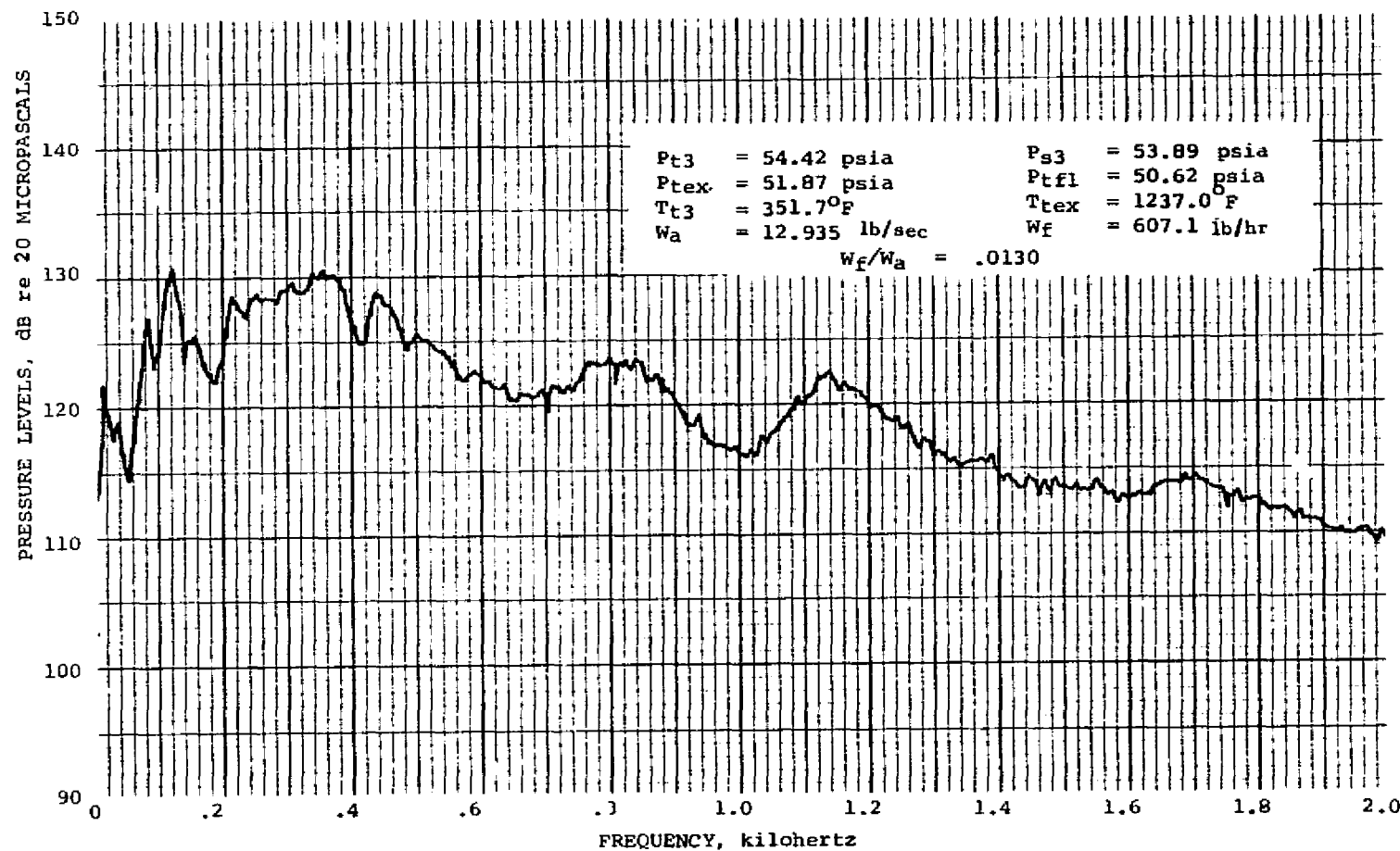
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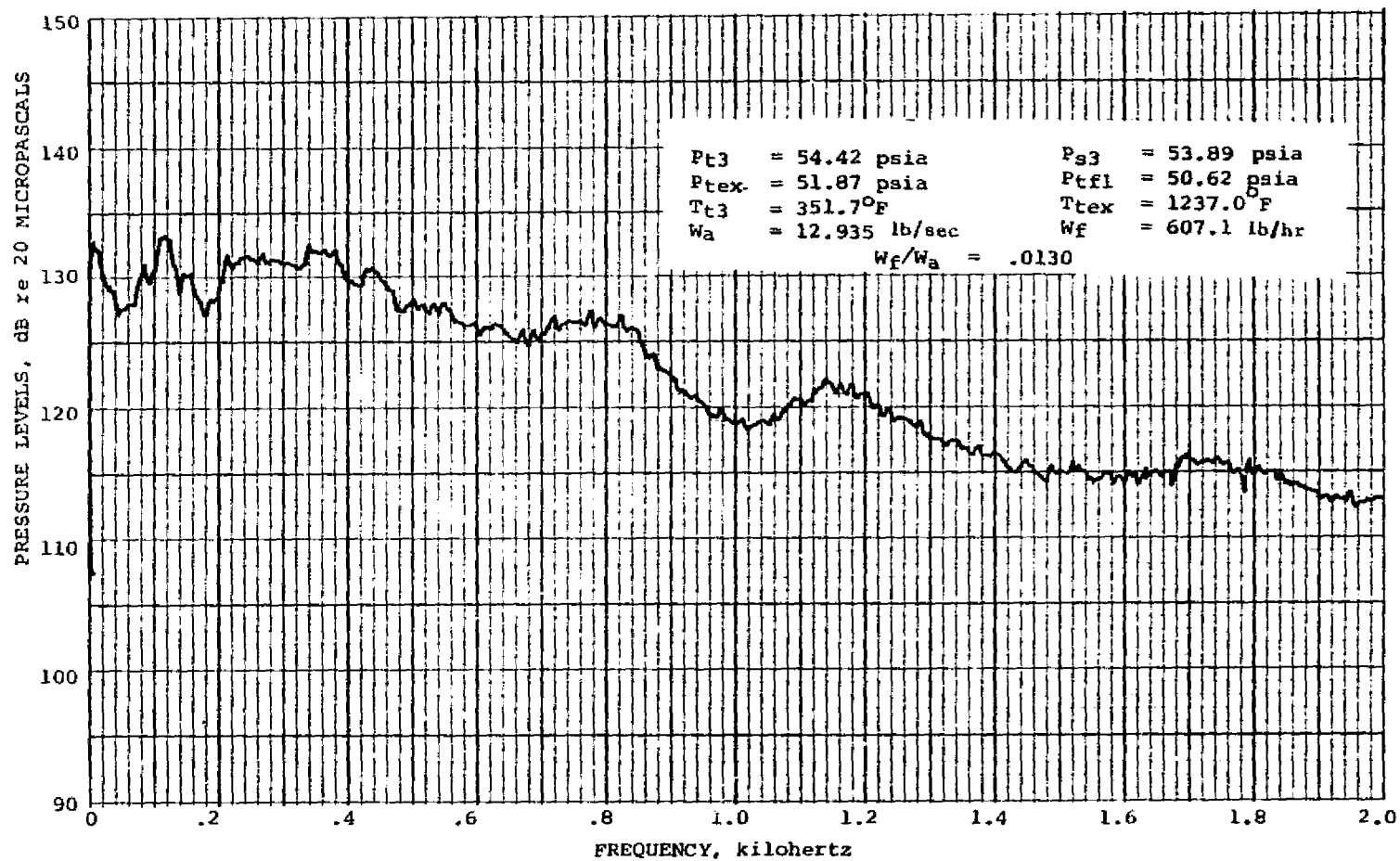
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 22



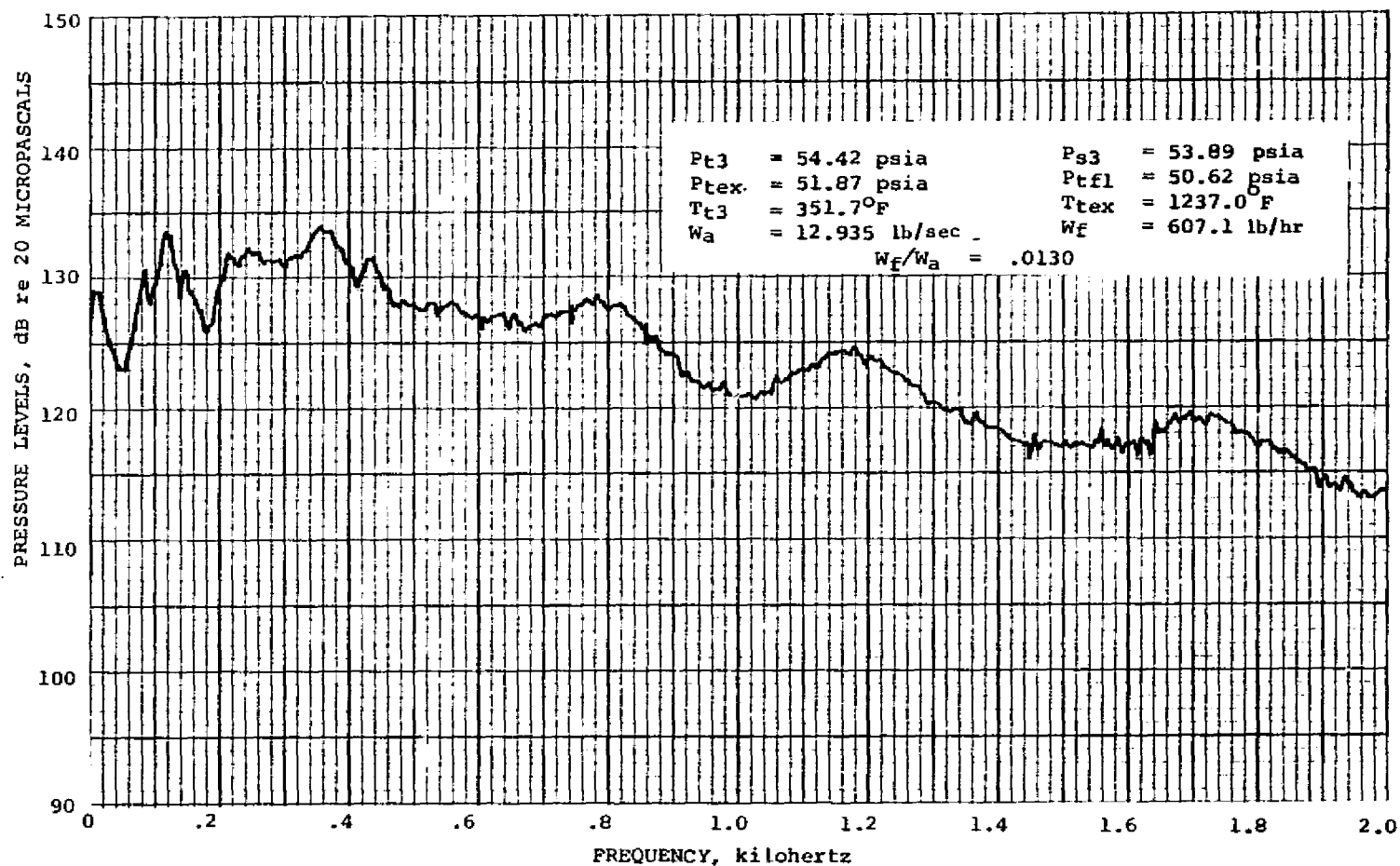
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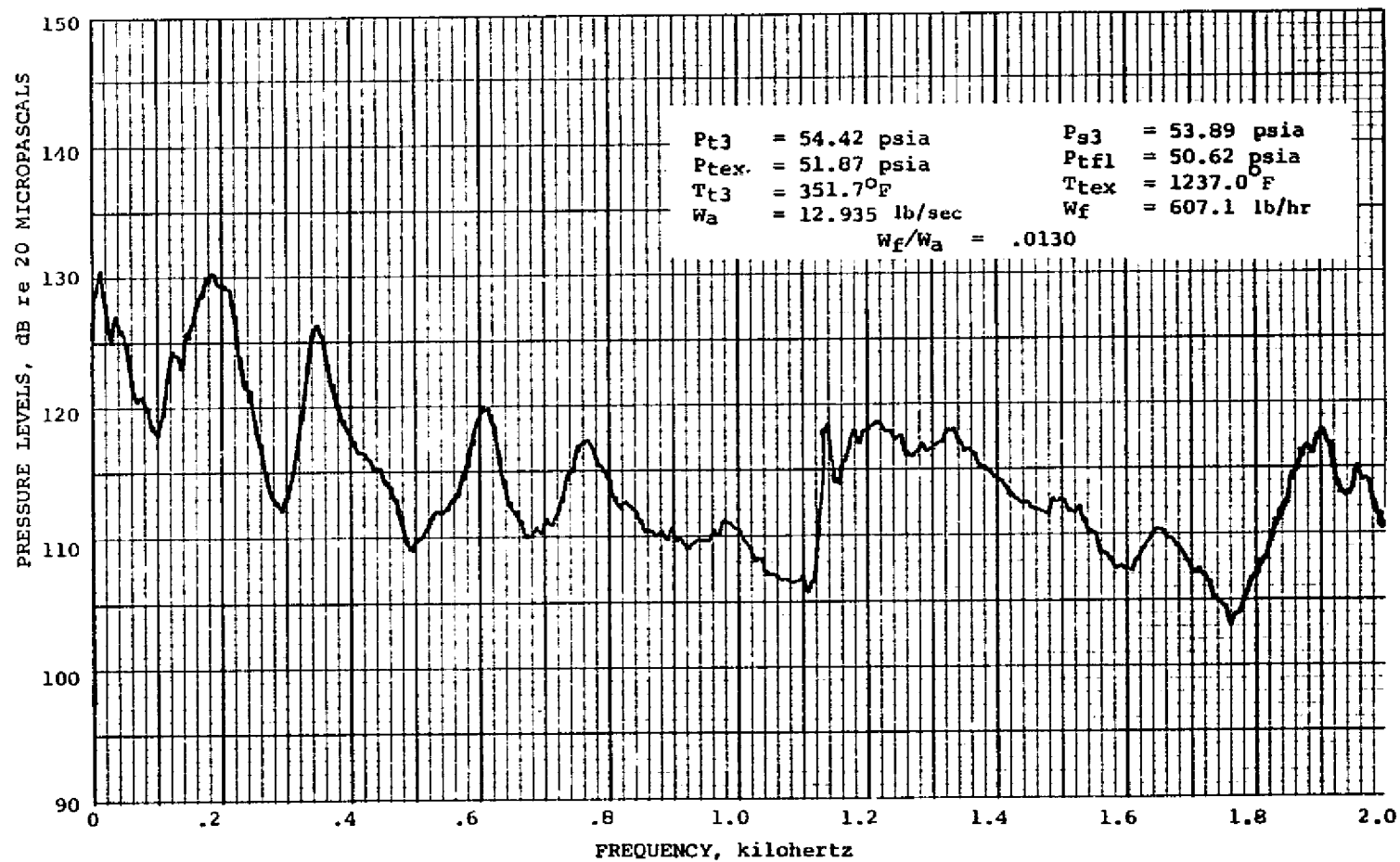
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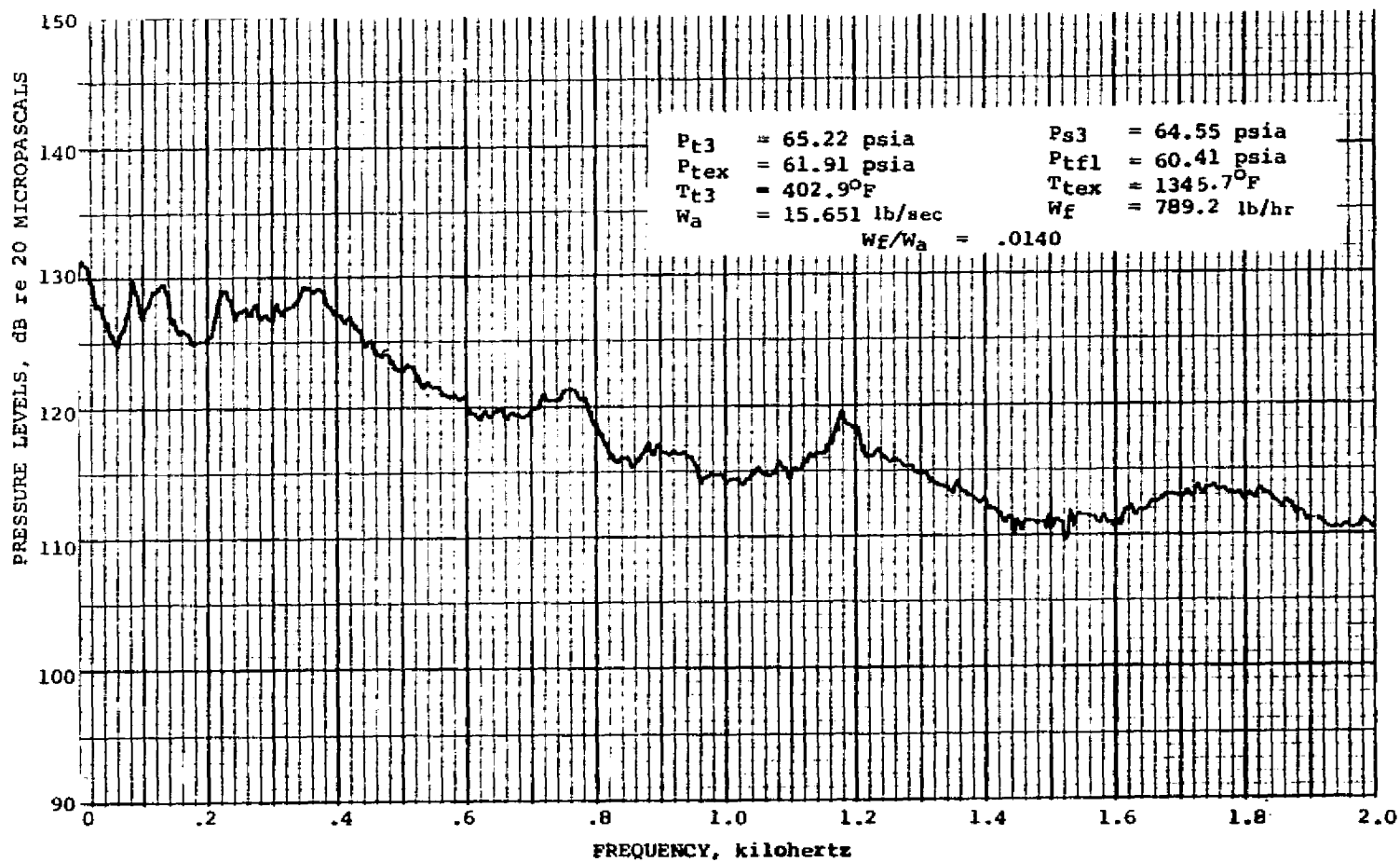
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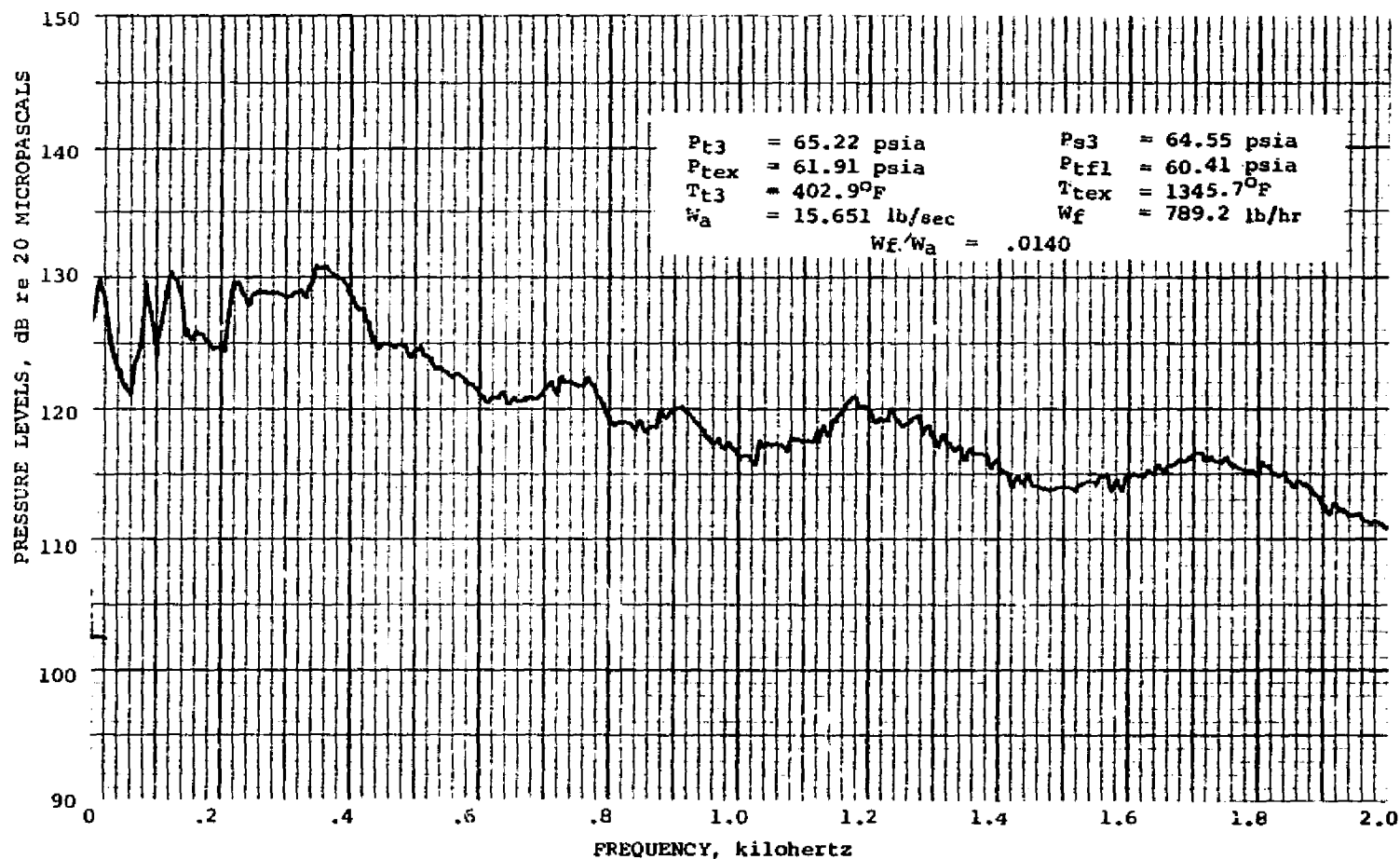
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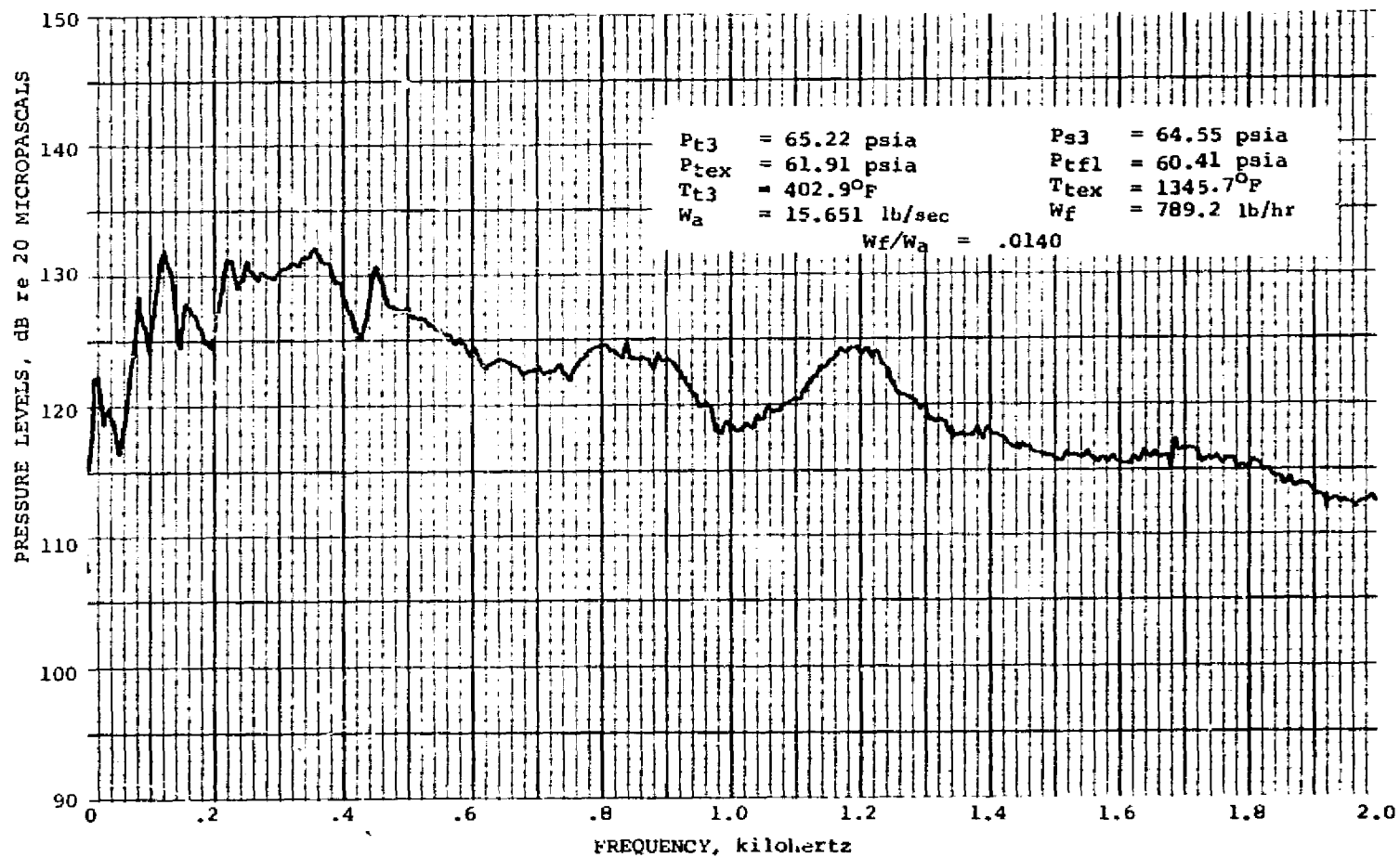
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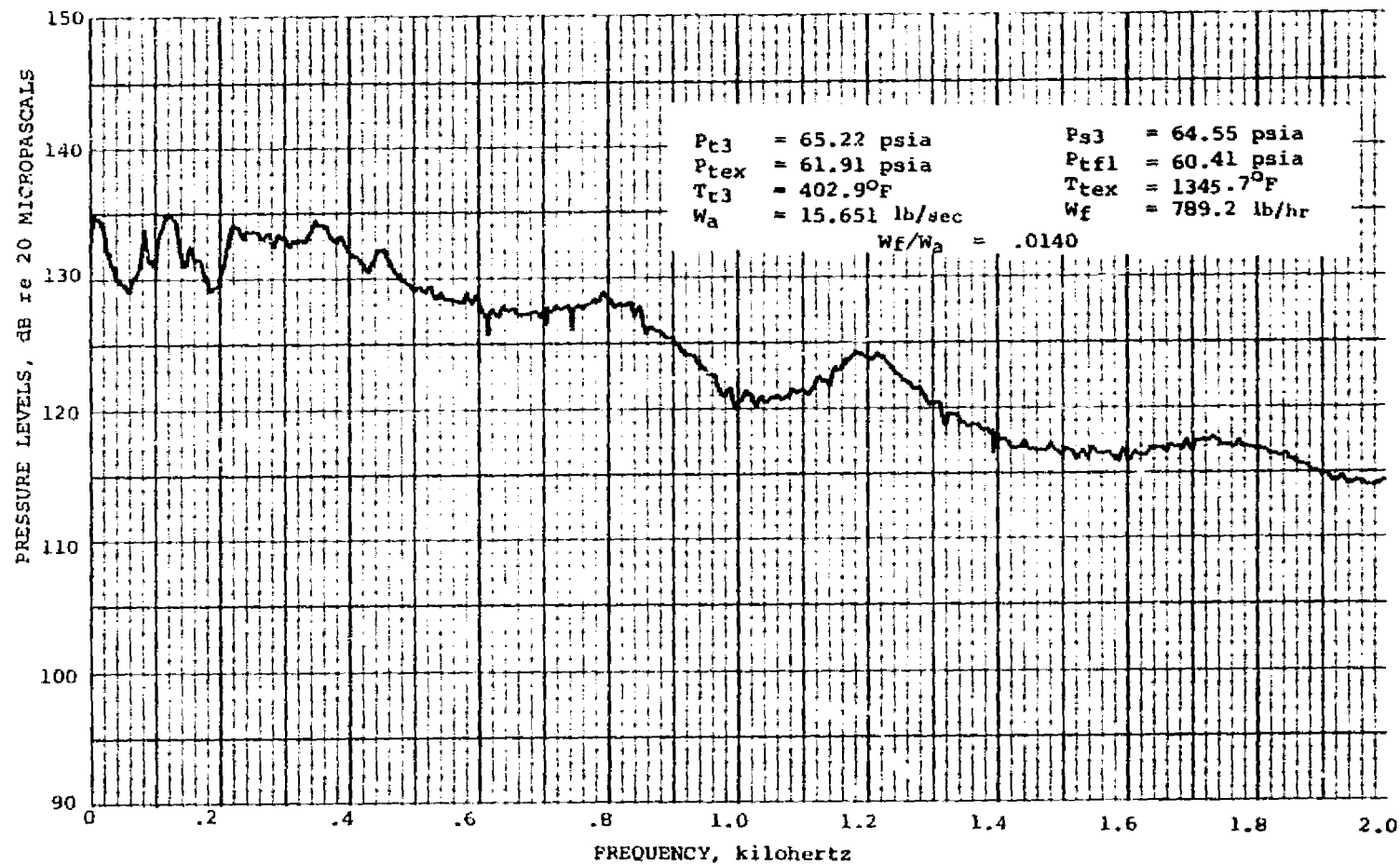
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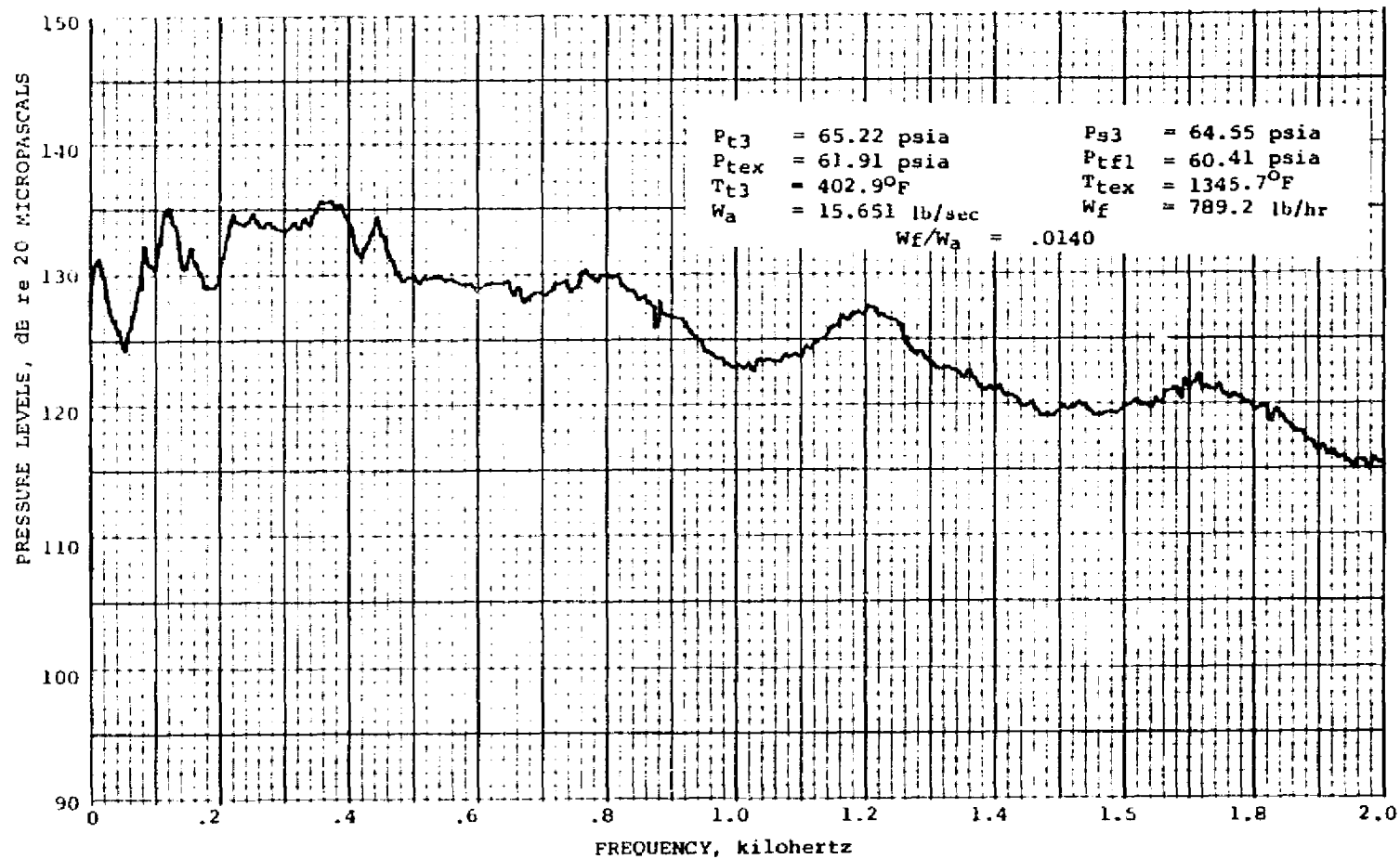
NARROW BAND SPECTRUM AT PROBE NUMBER 2 DURING RUN POINT NUMBER 23



NARROW BAND SPECTRUM AT PROBE NUMBER 3 DURING RUN POINT NUMBER 23

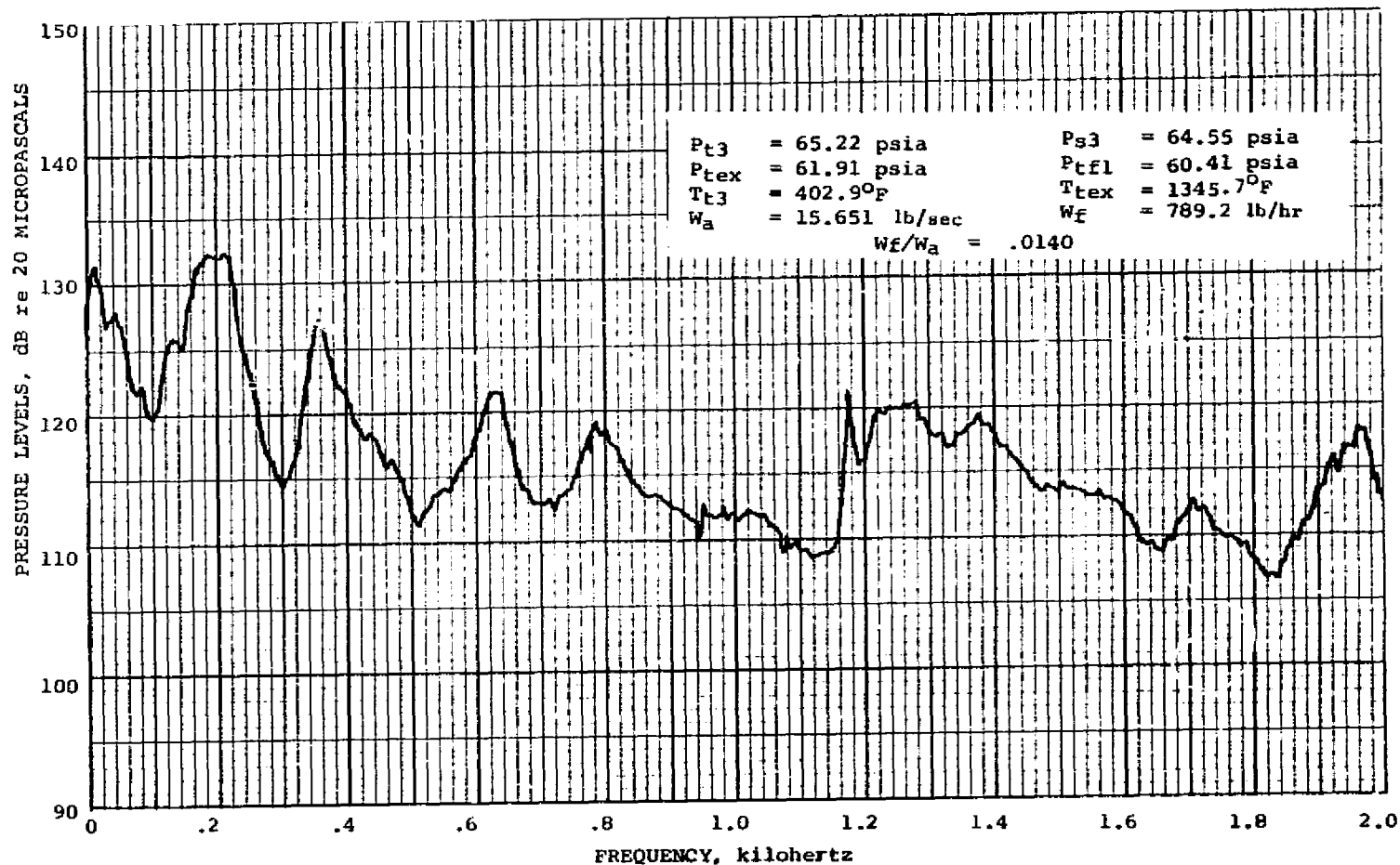


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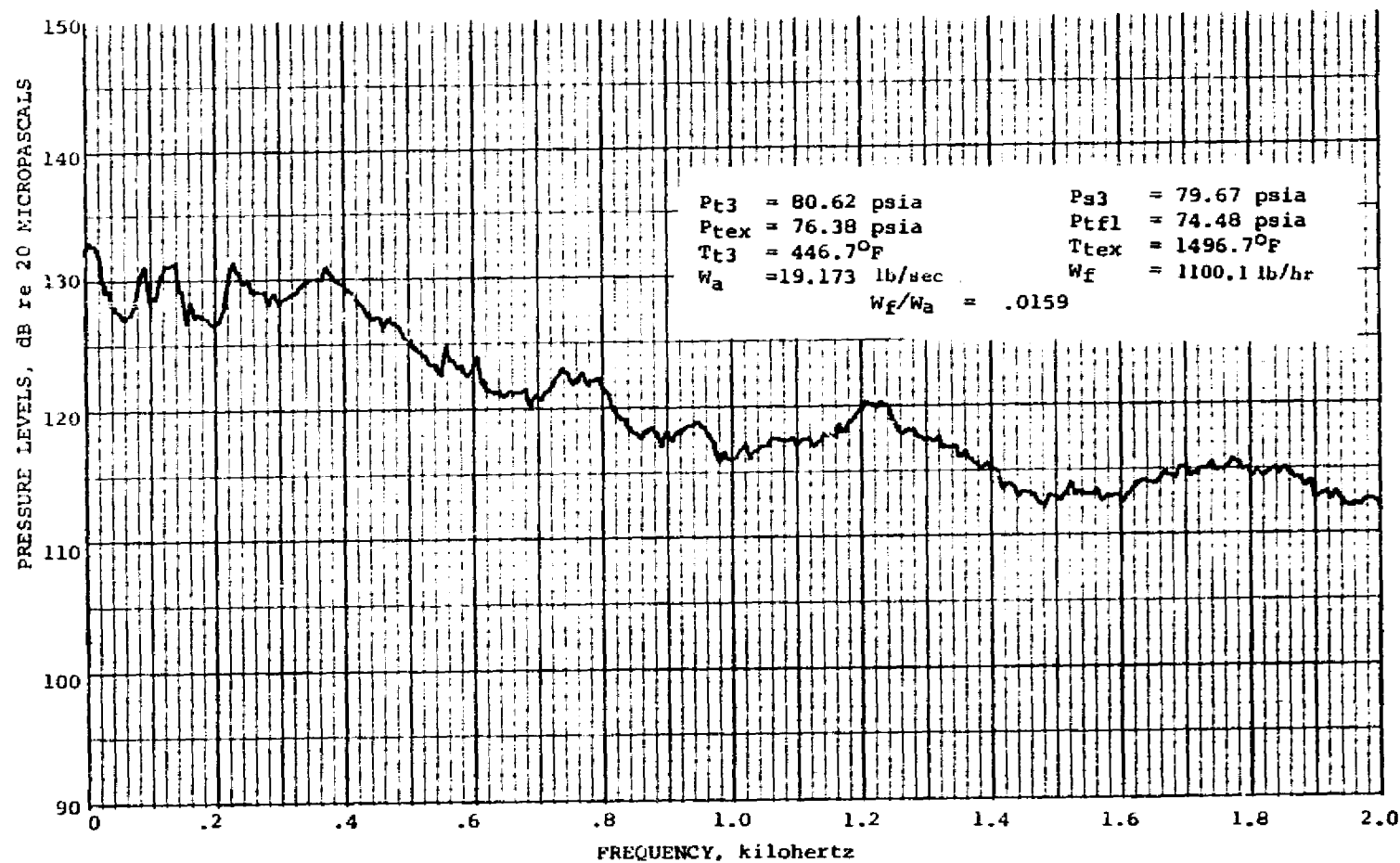


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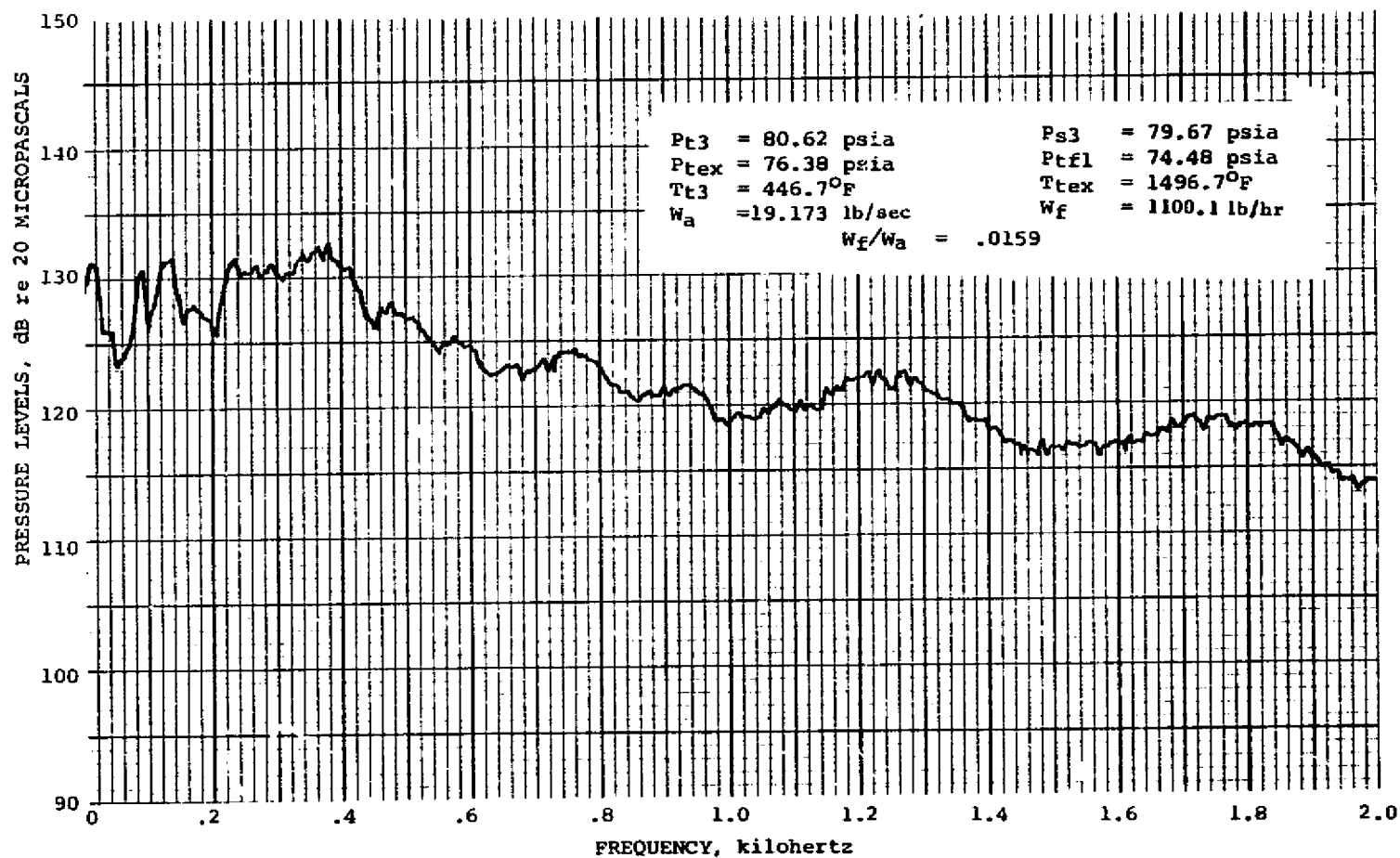
2-2



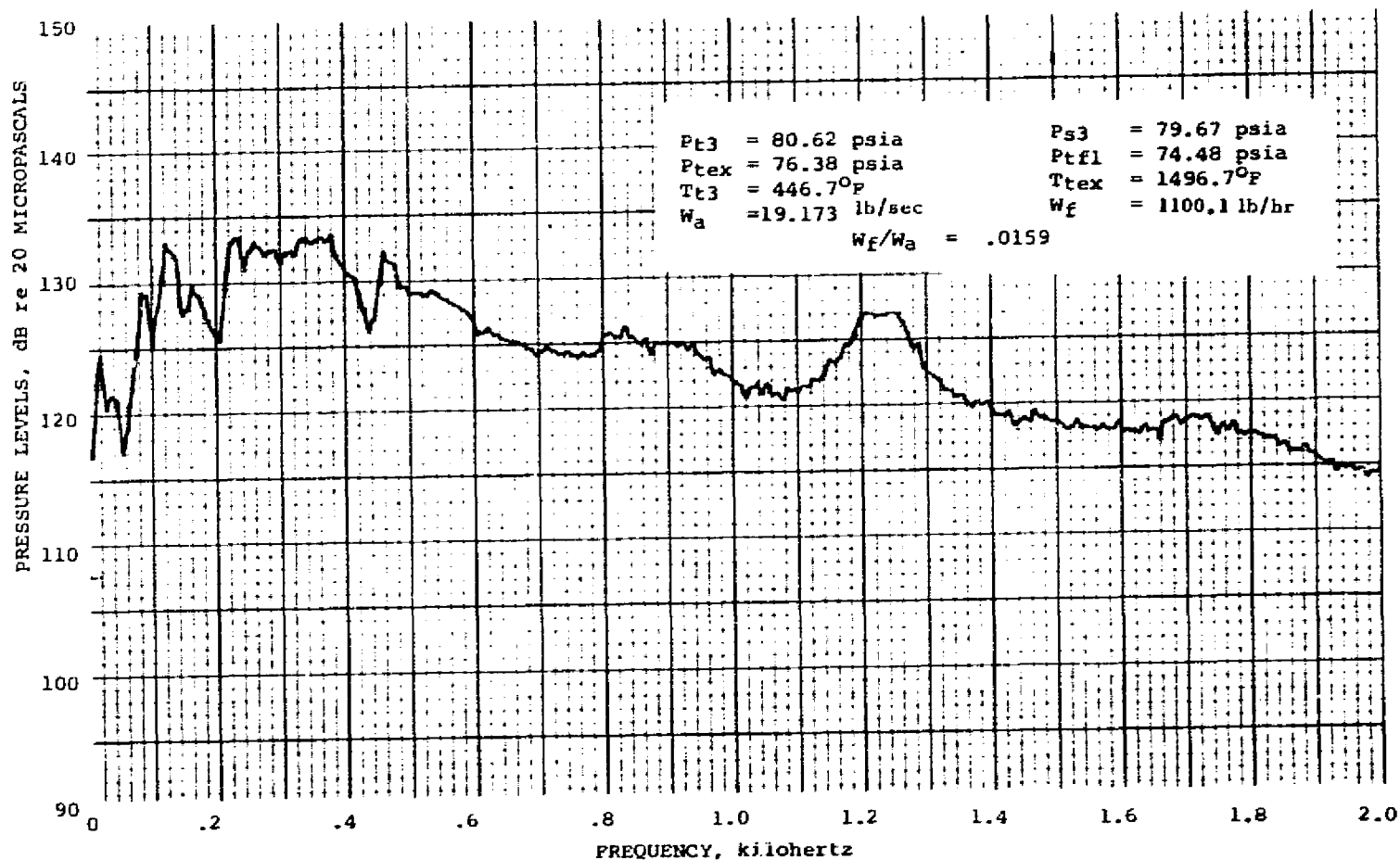
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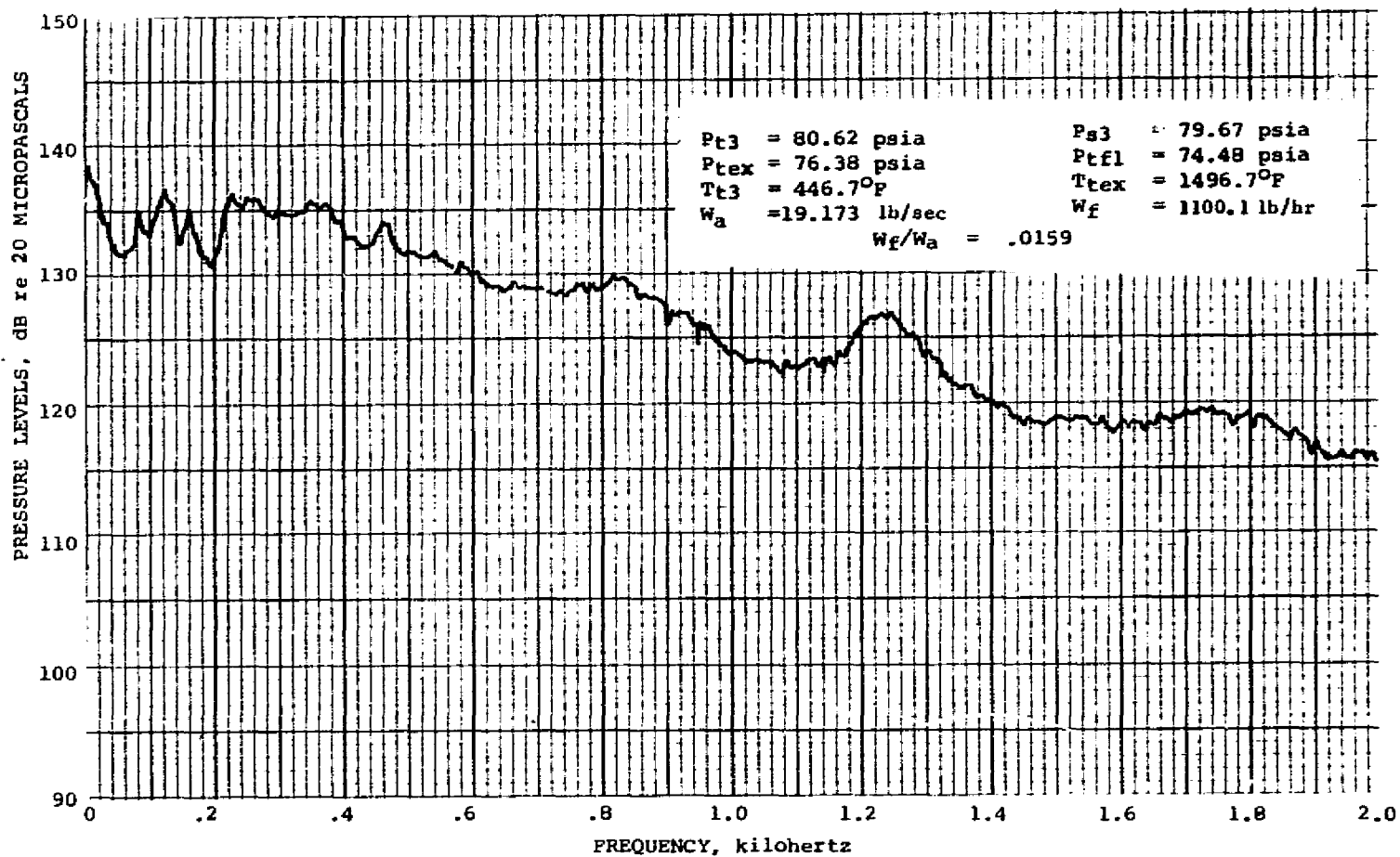
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 24



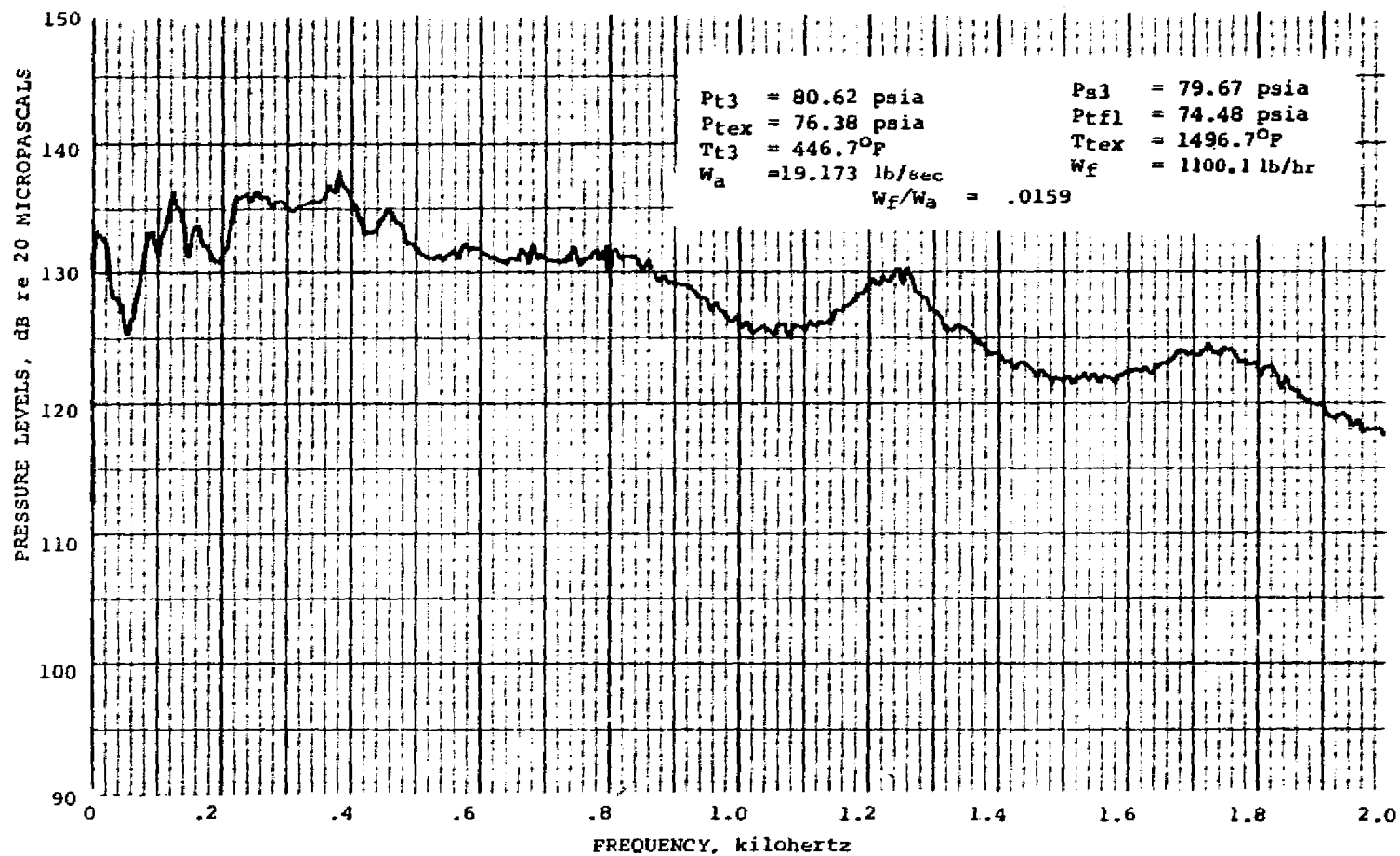
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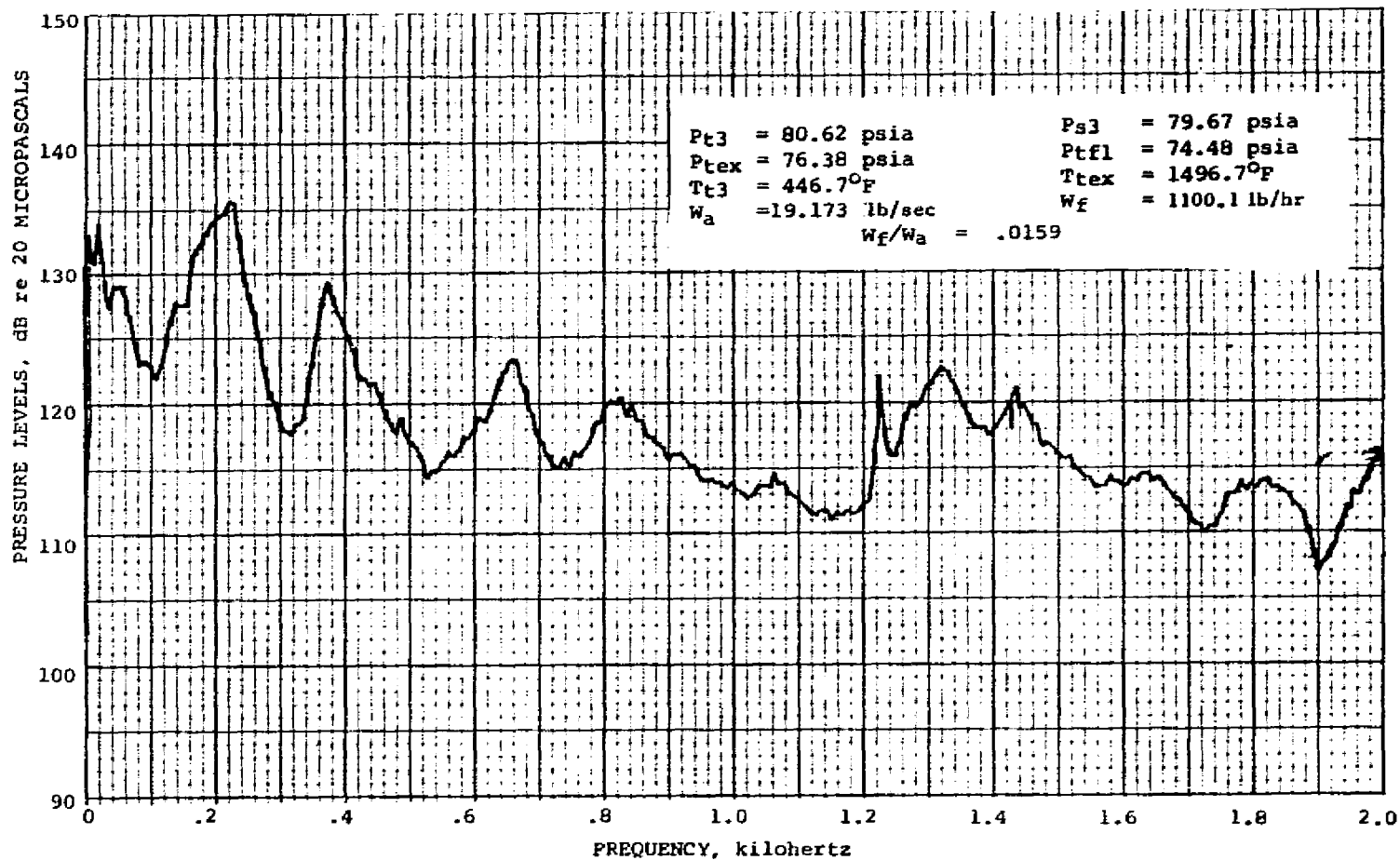
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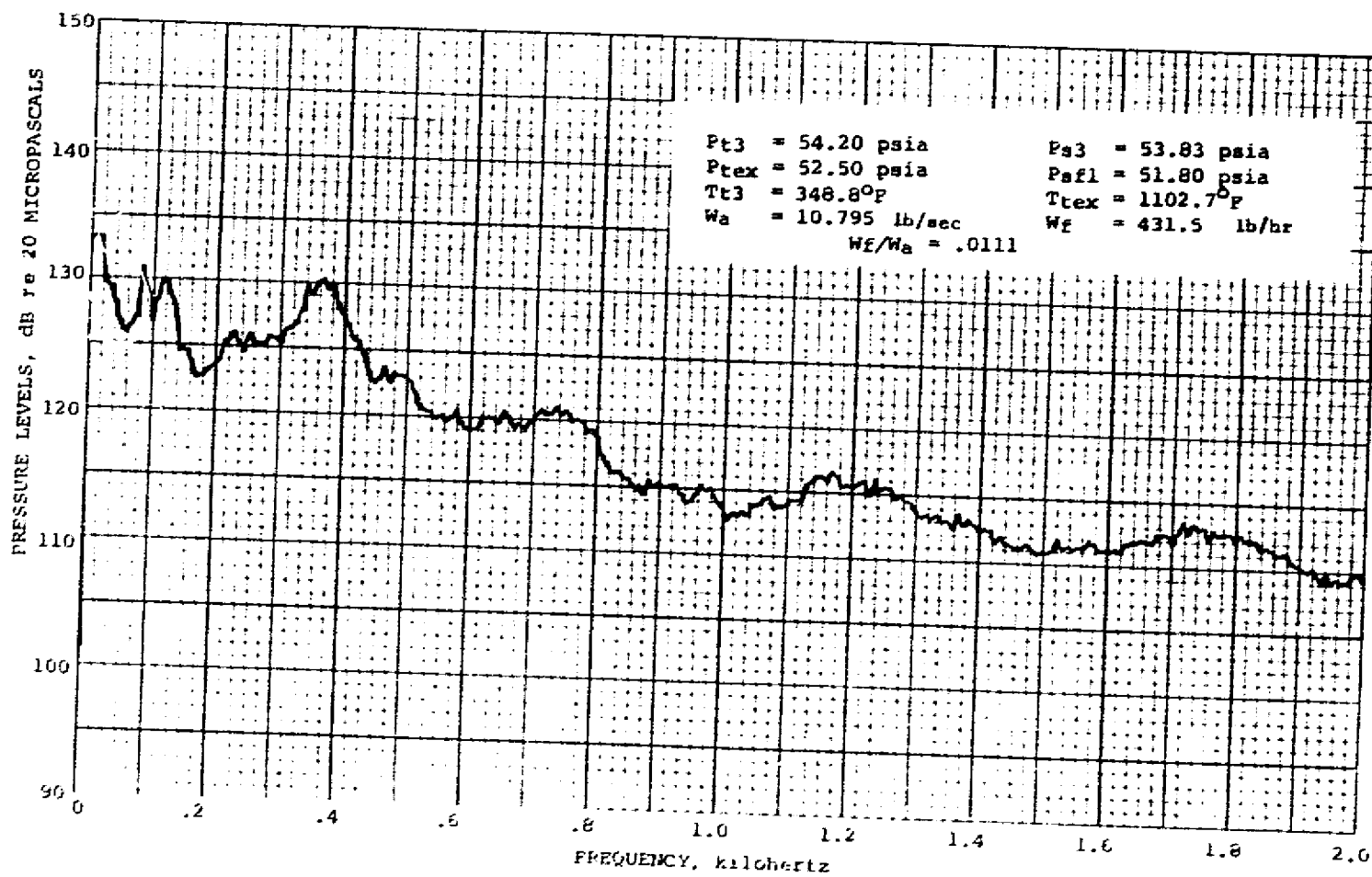
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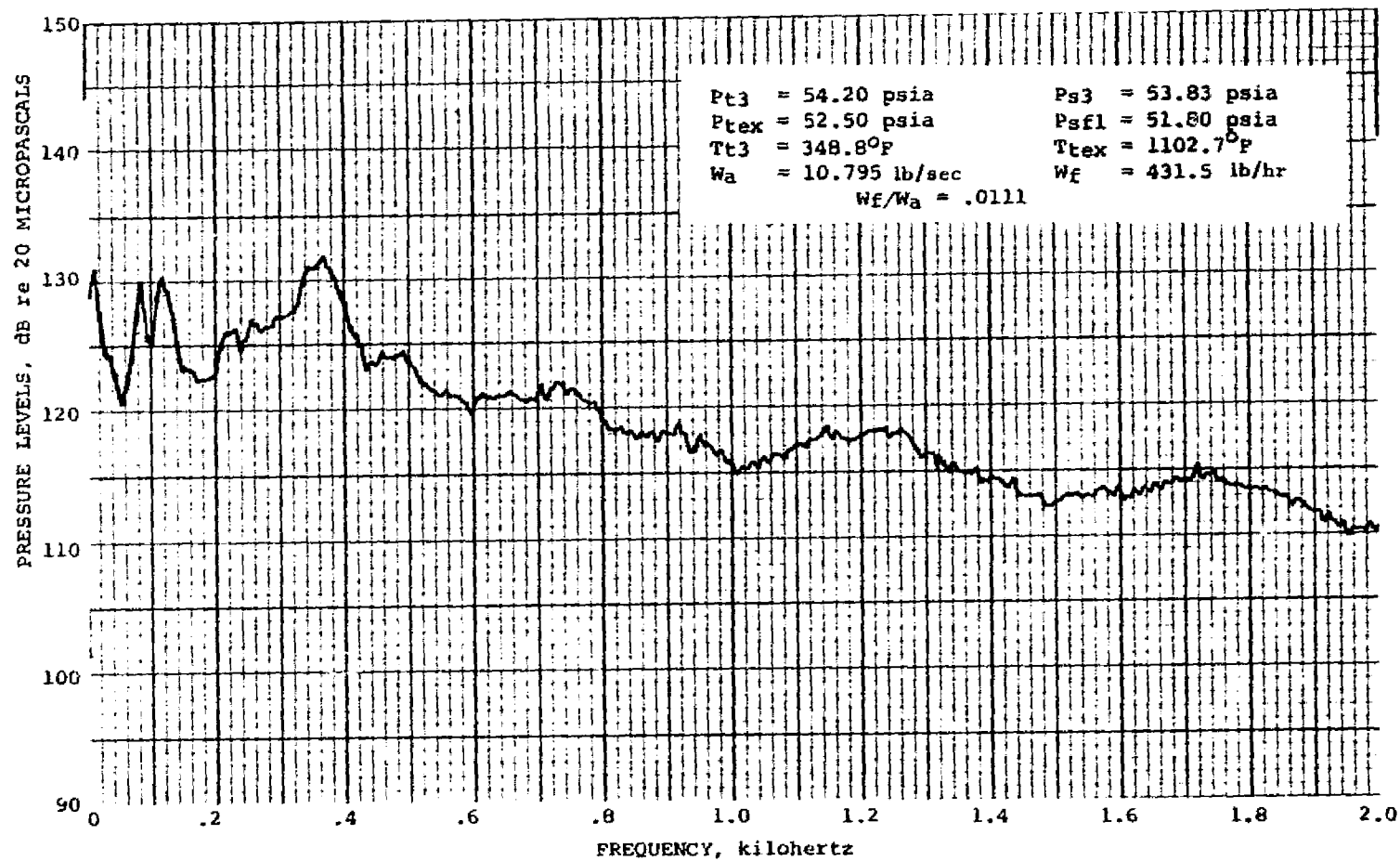
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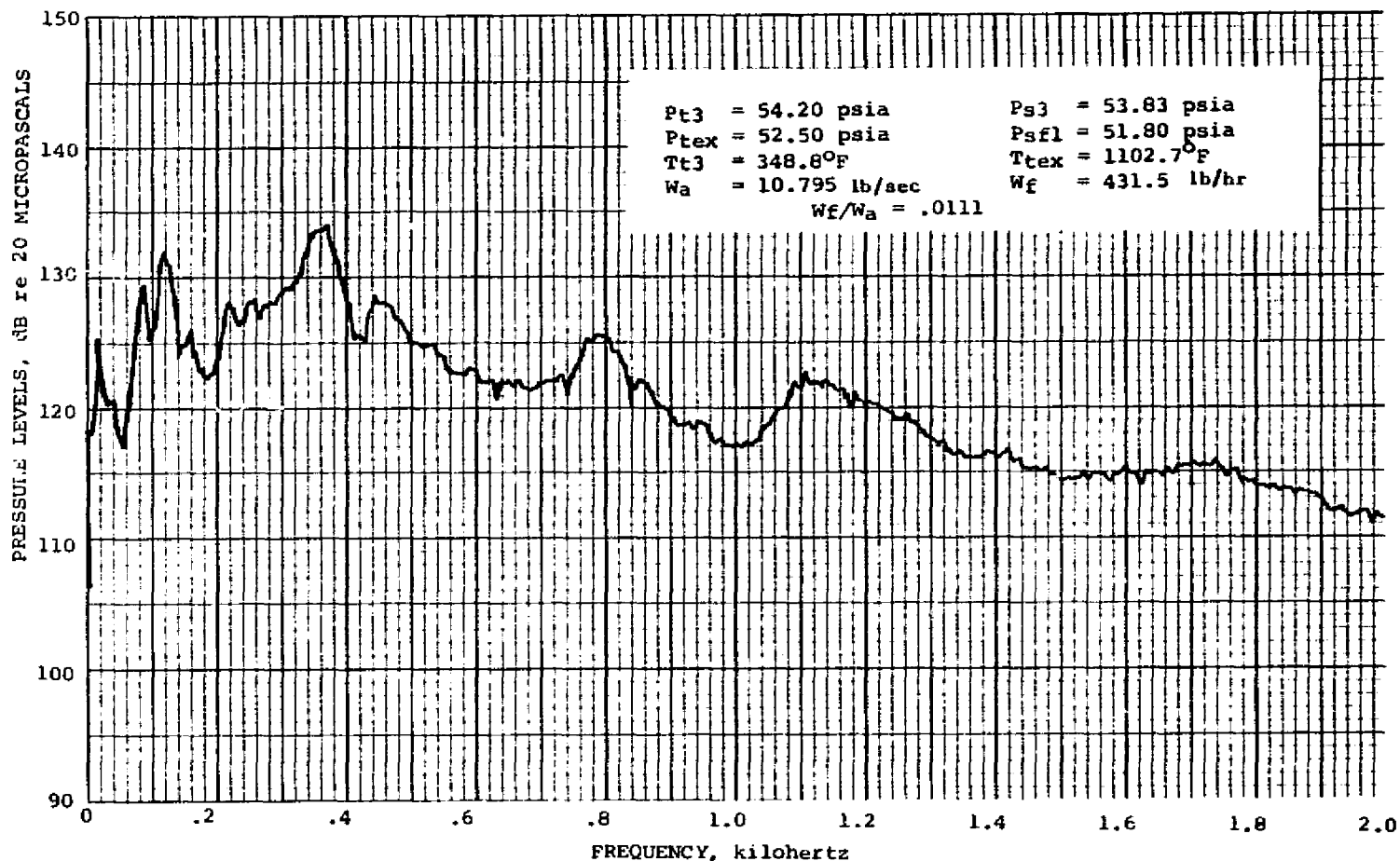
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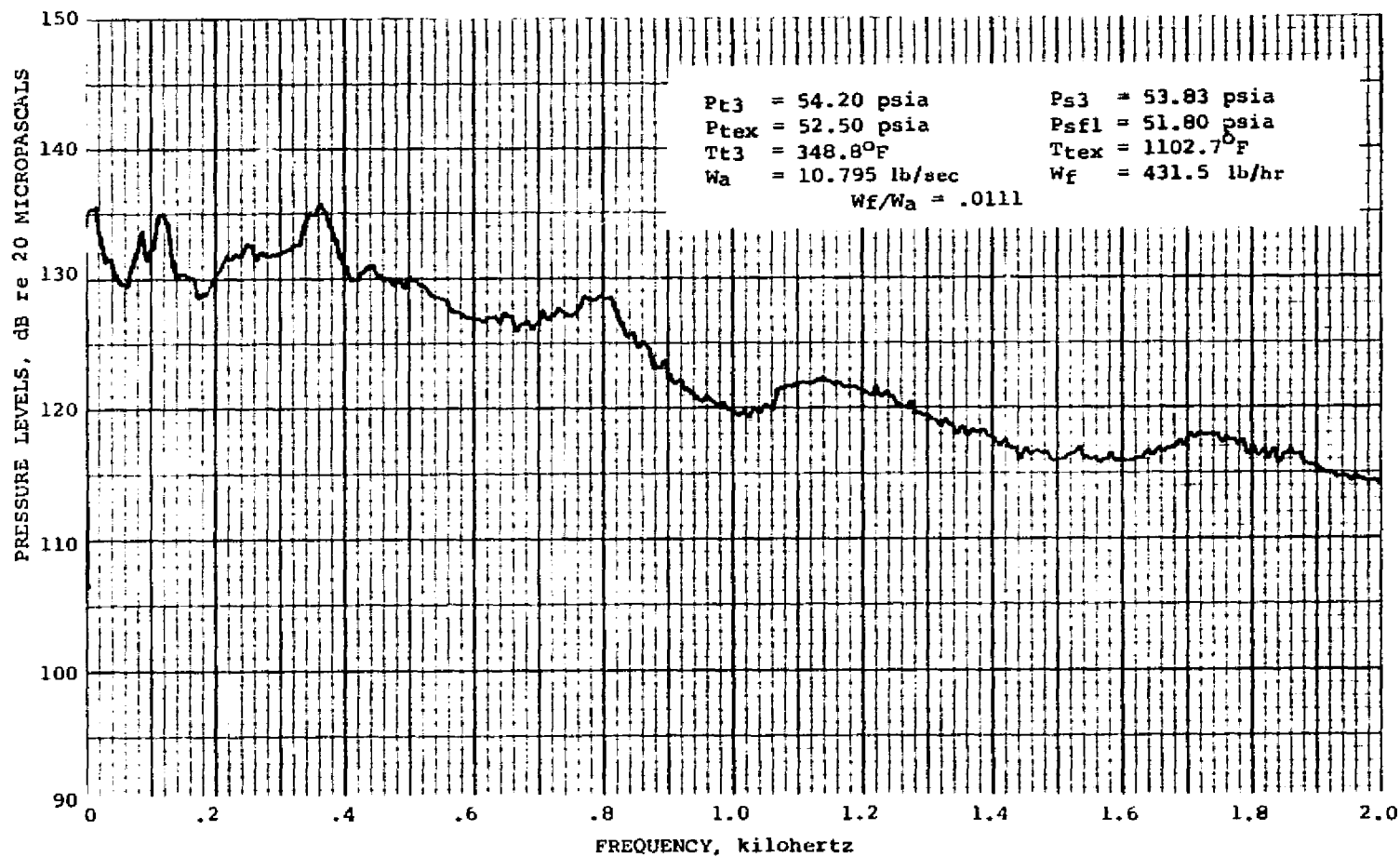
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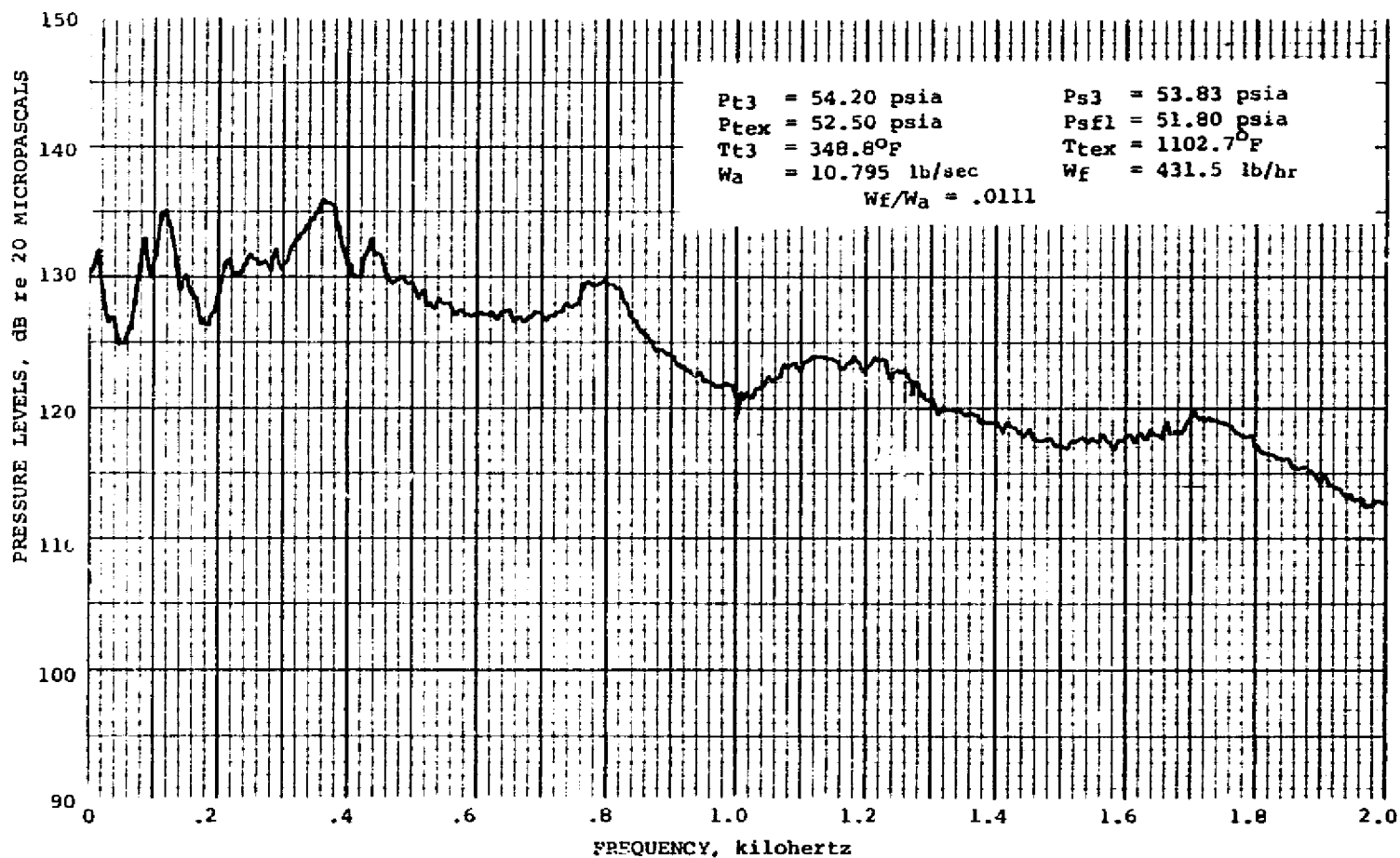
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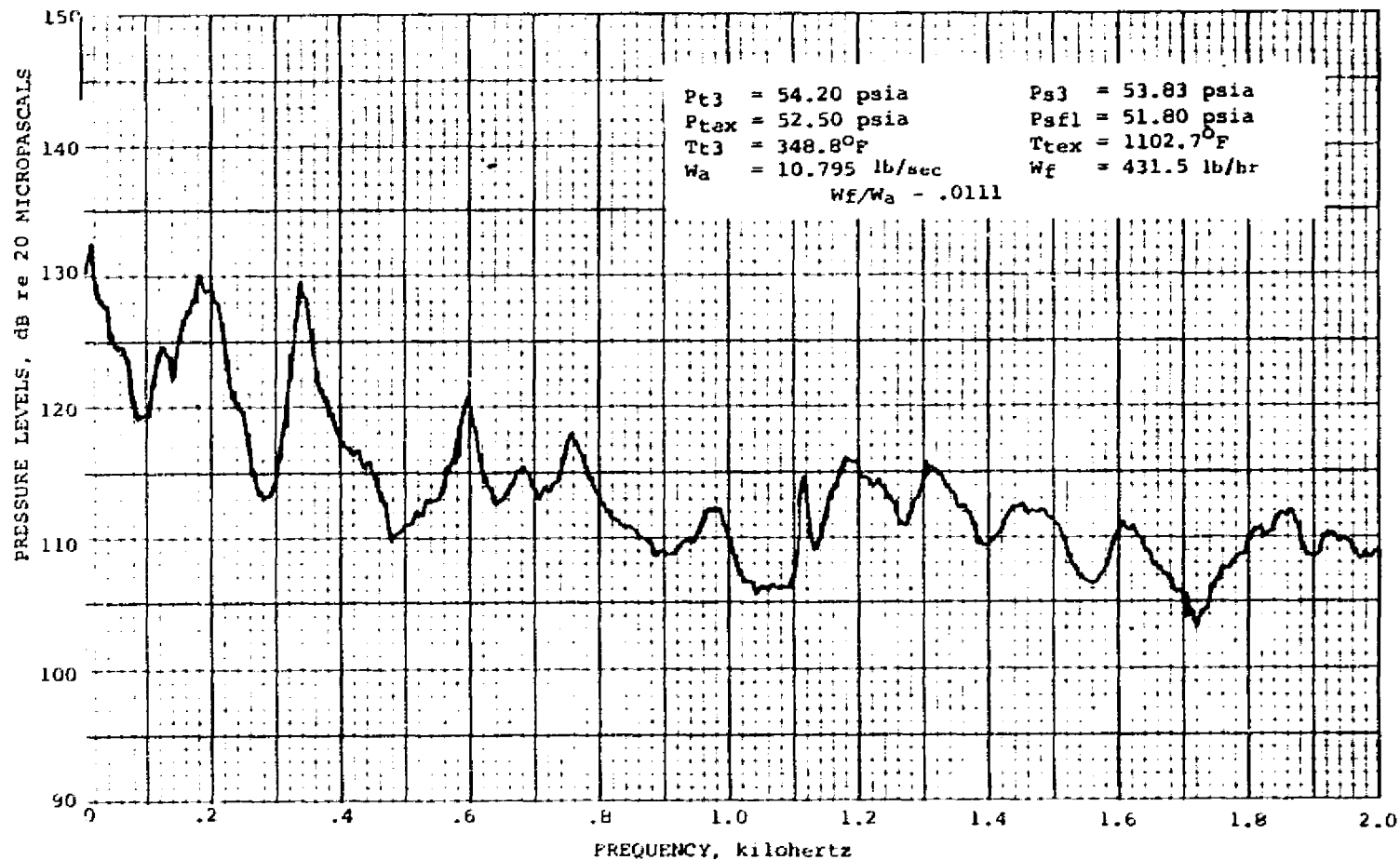
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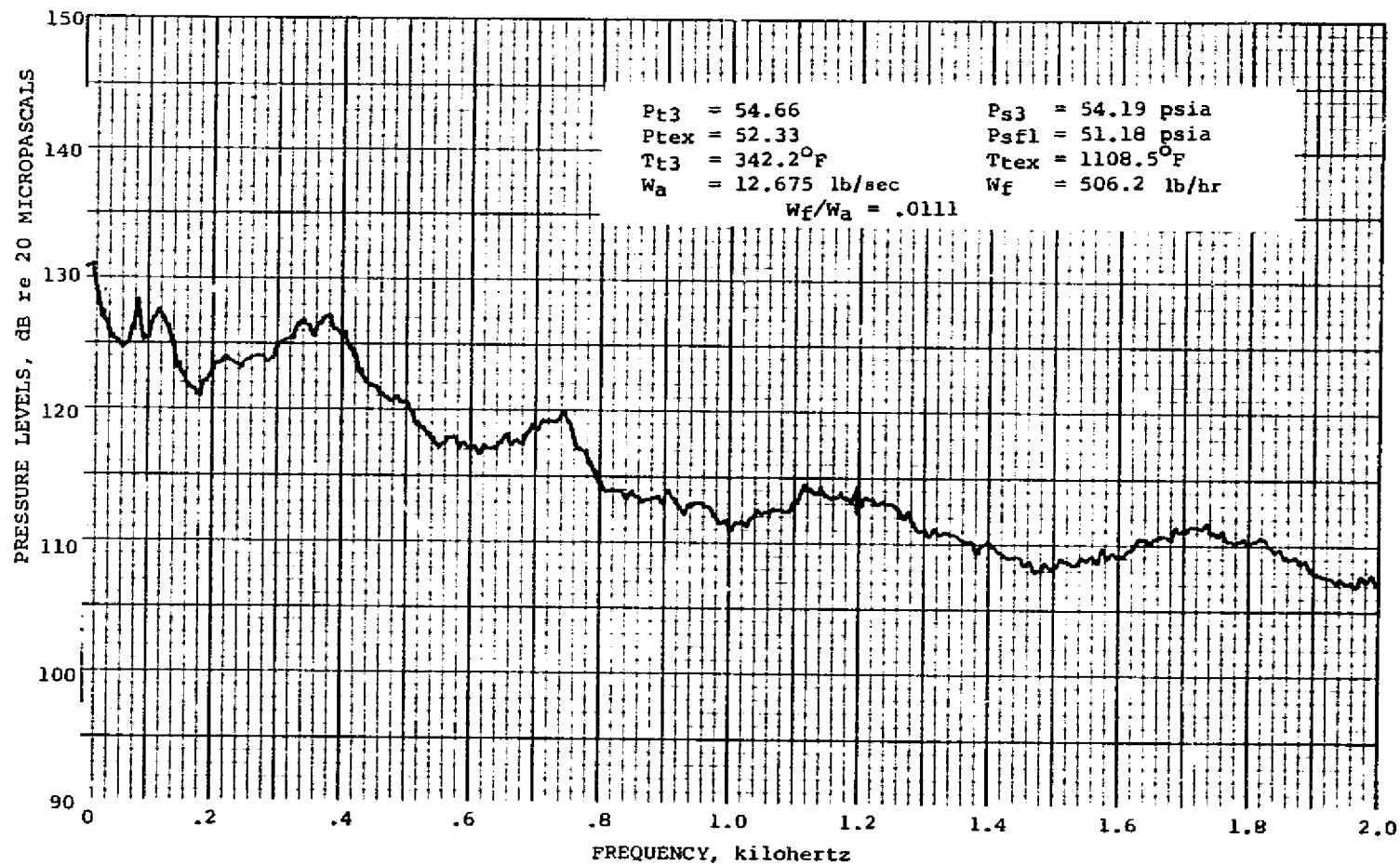
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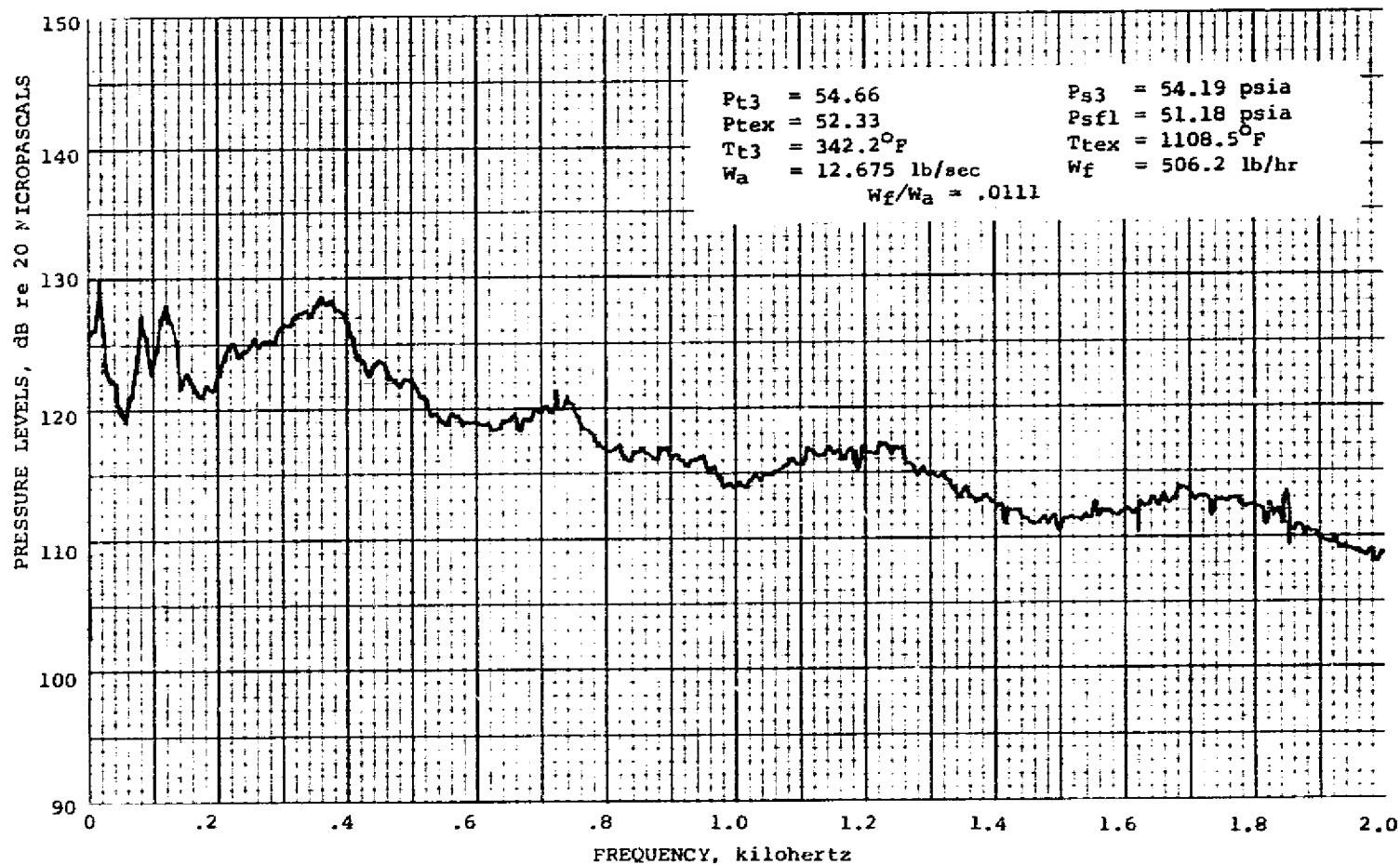
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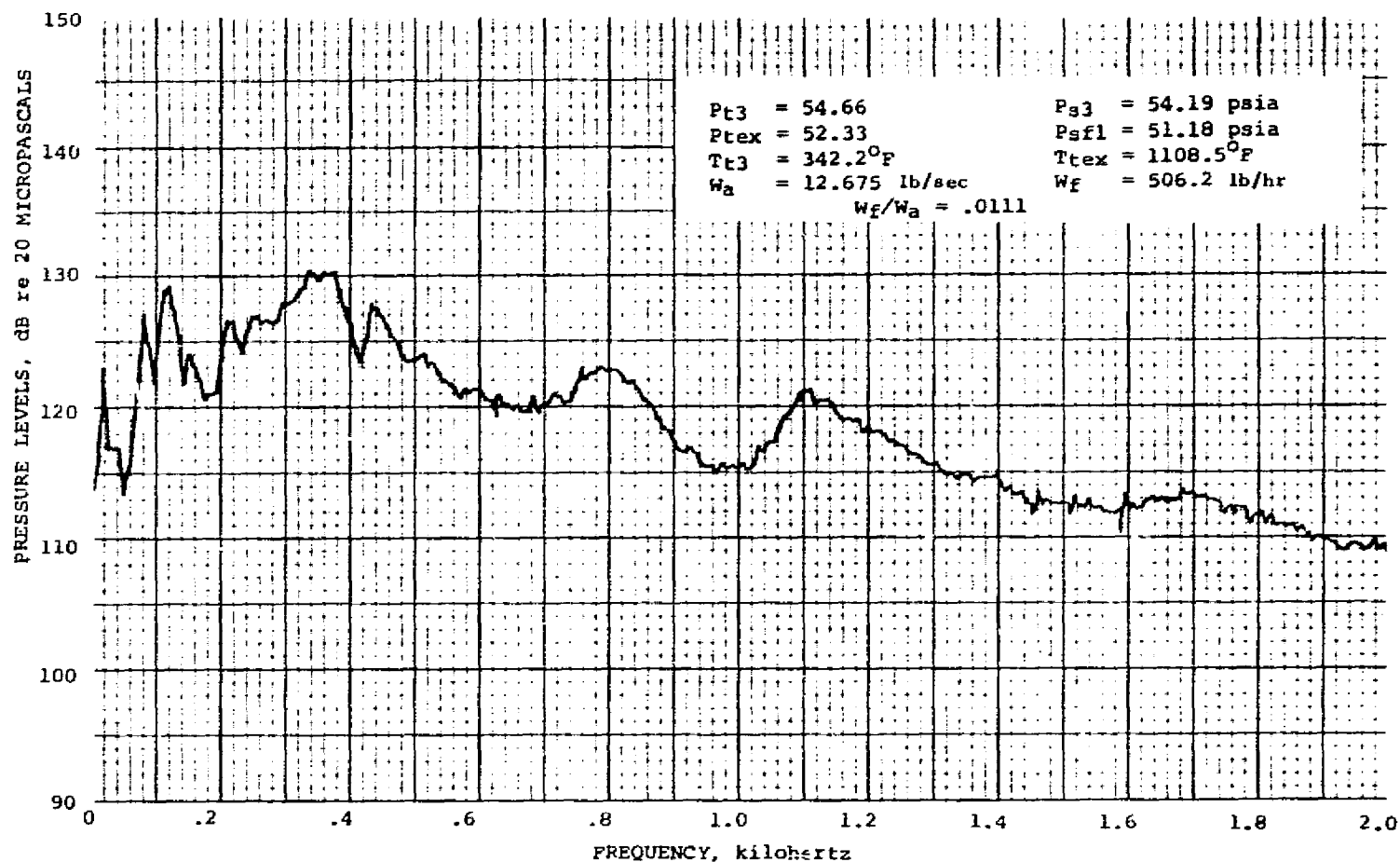
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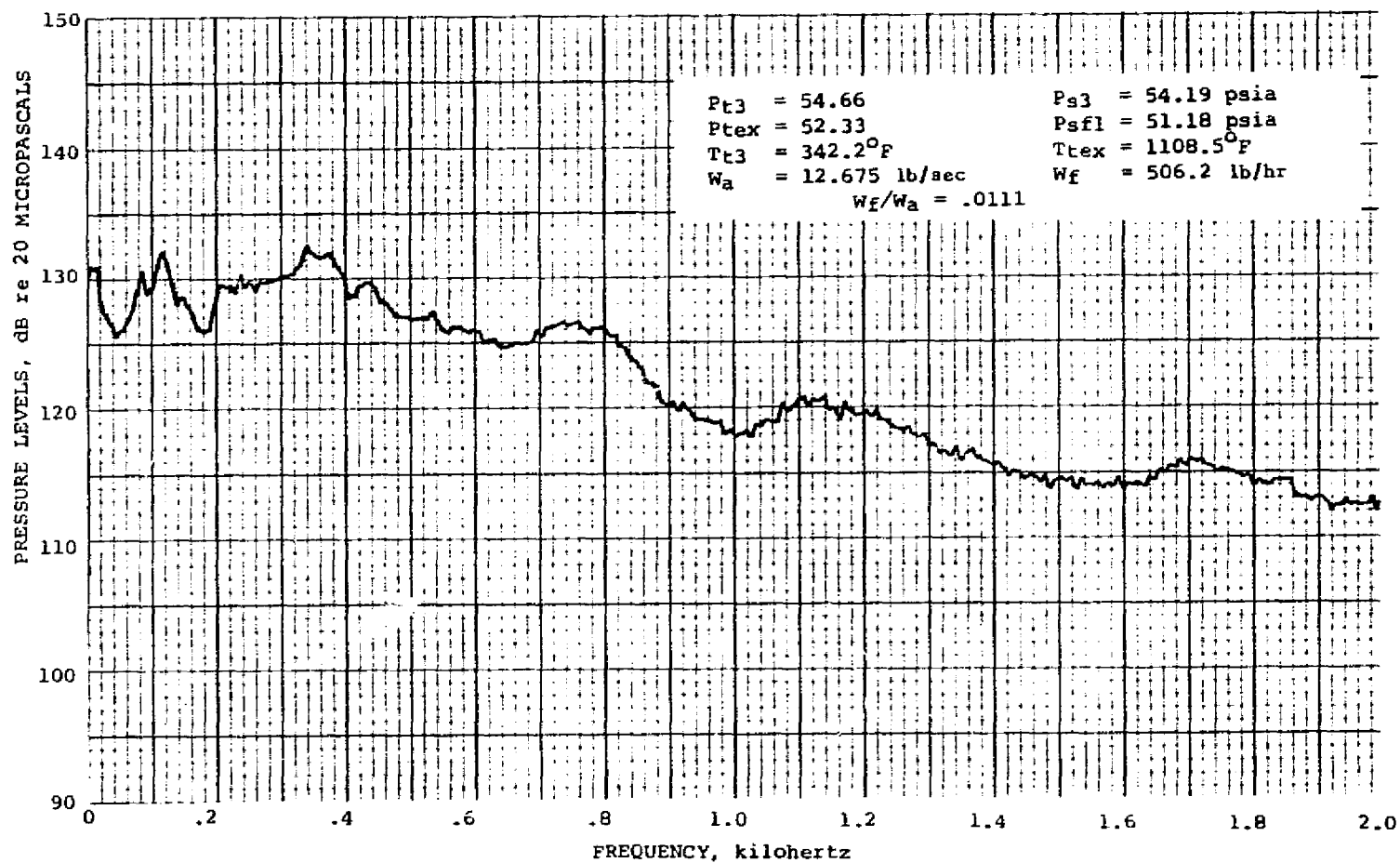
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 21



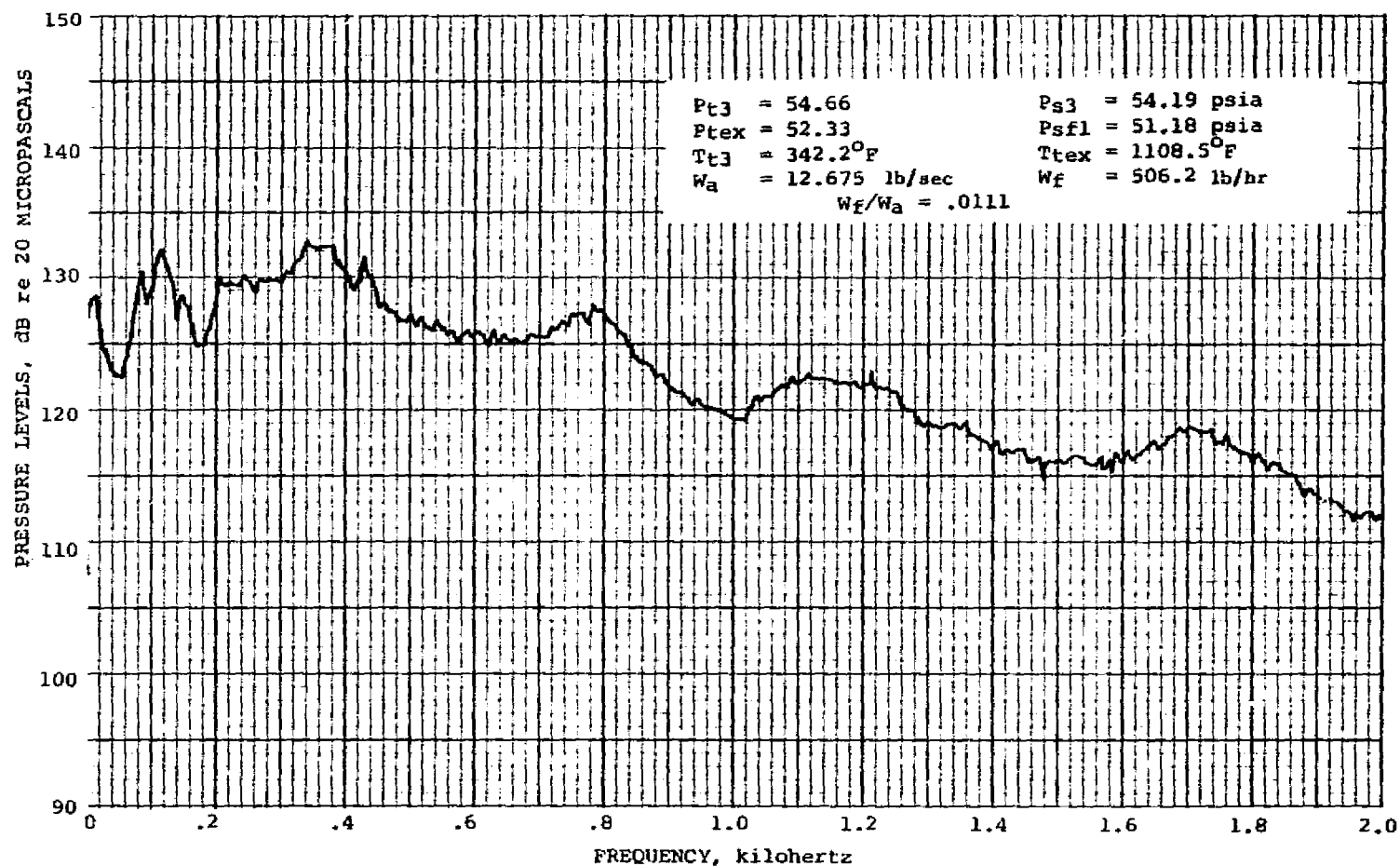
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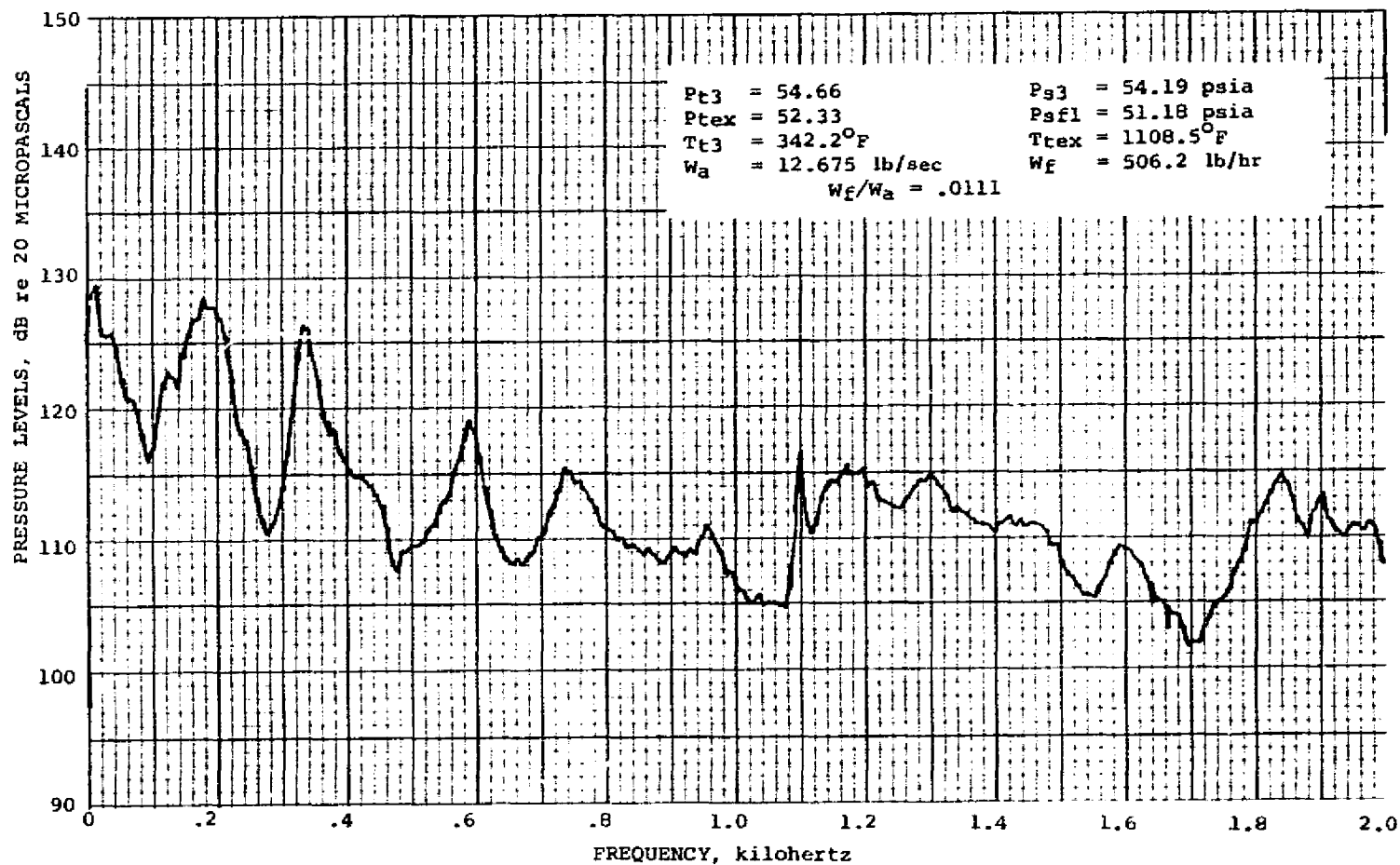
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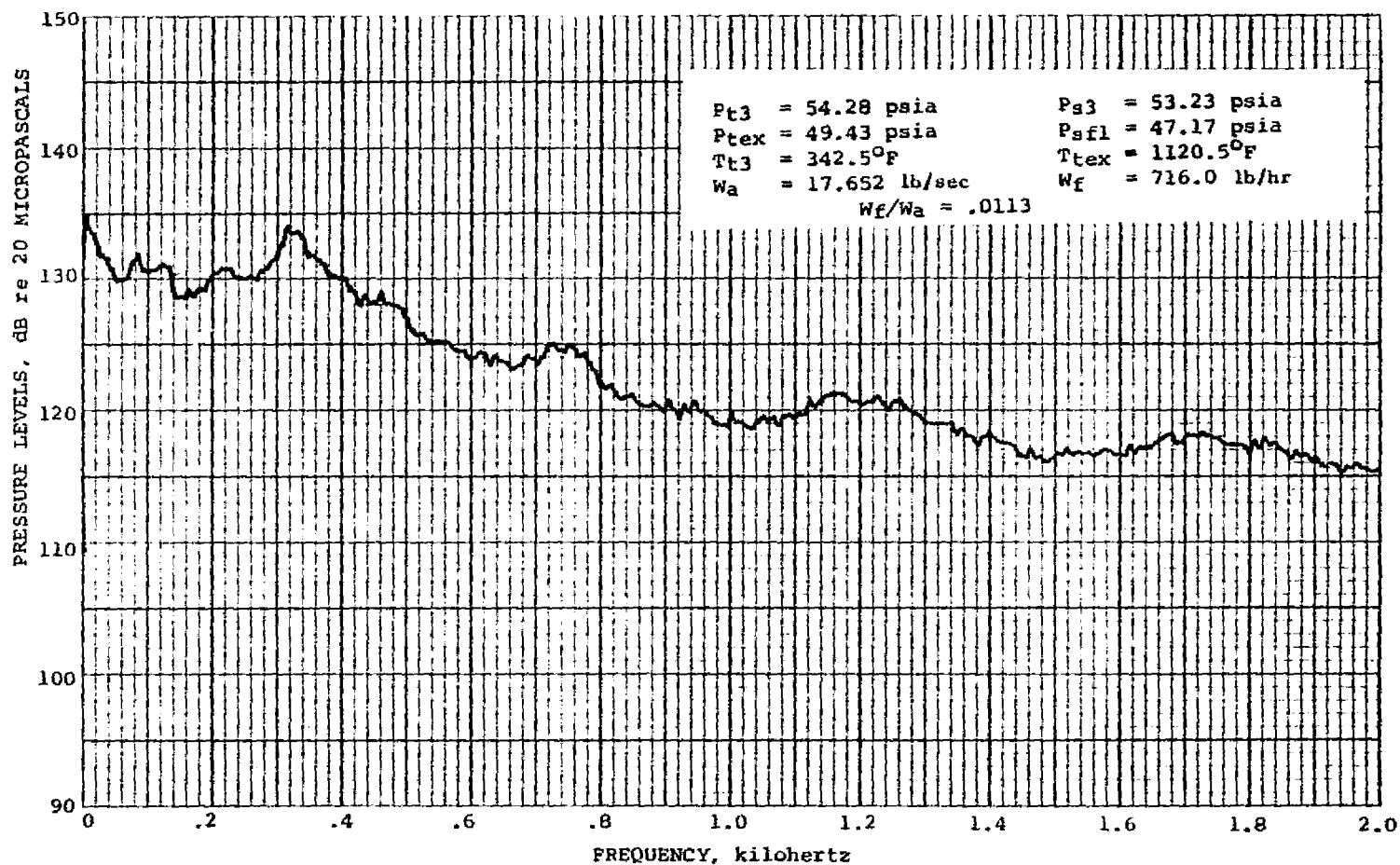
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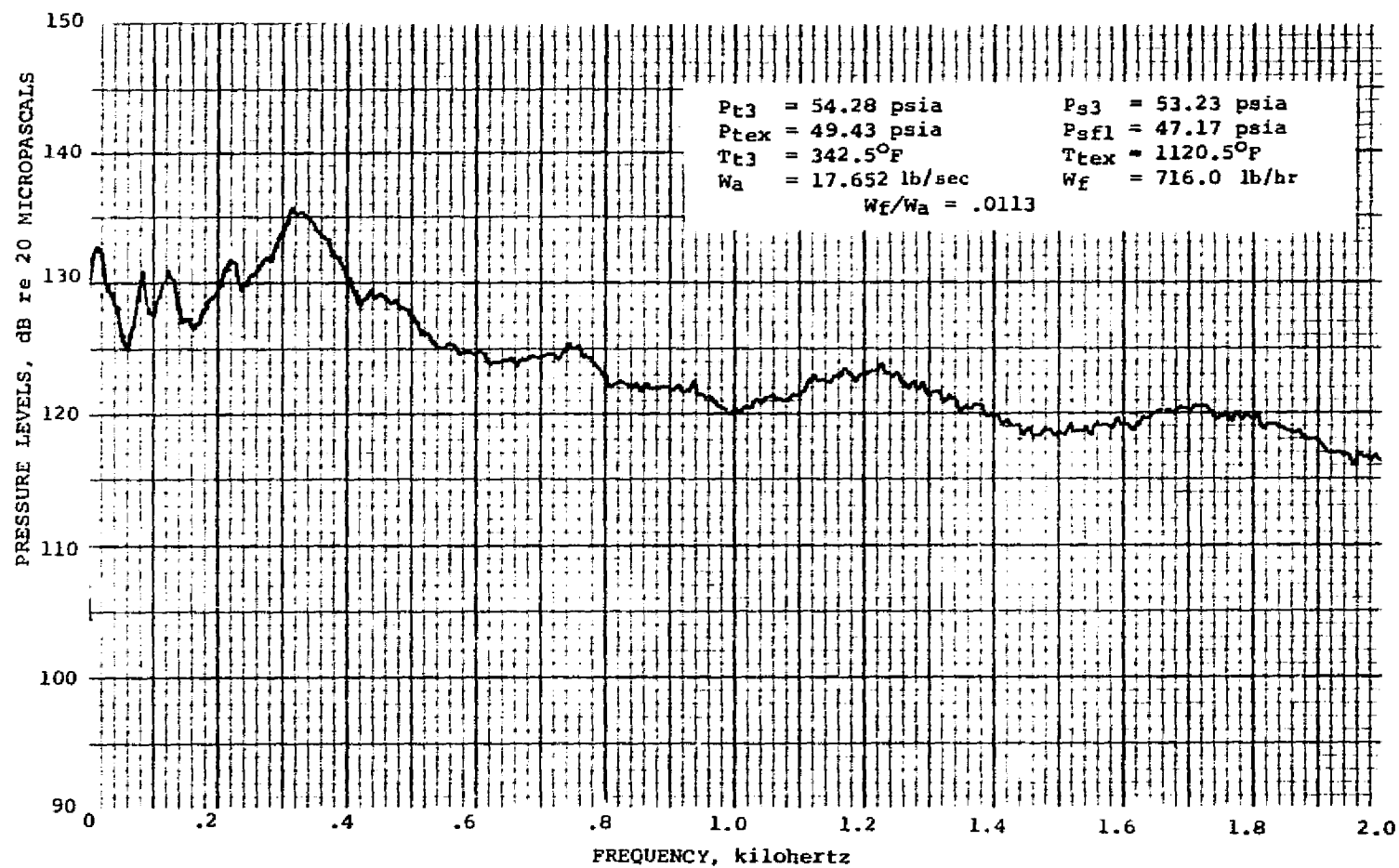
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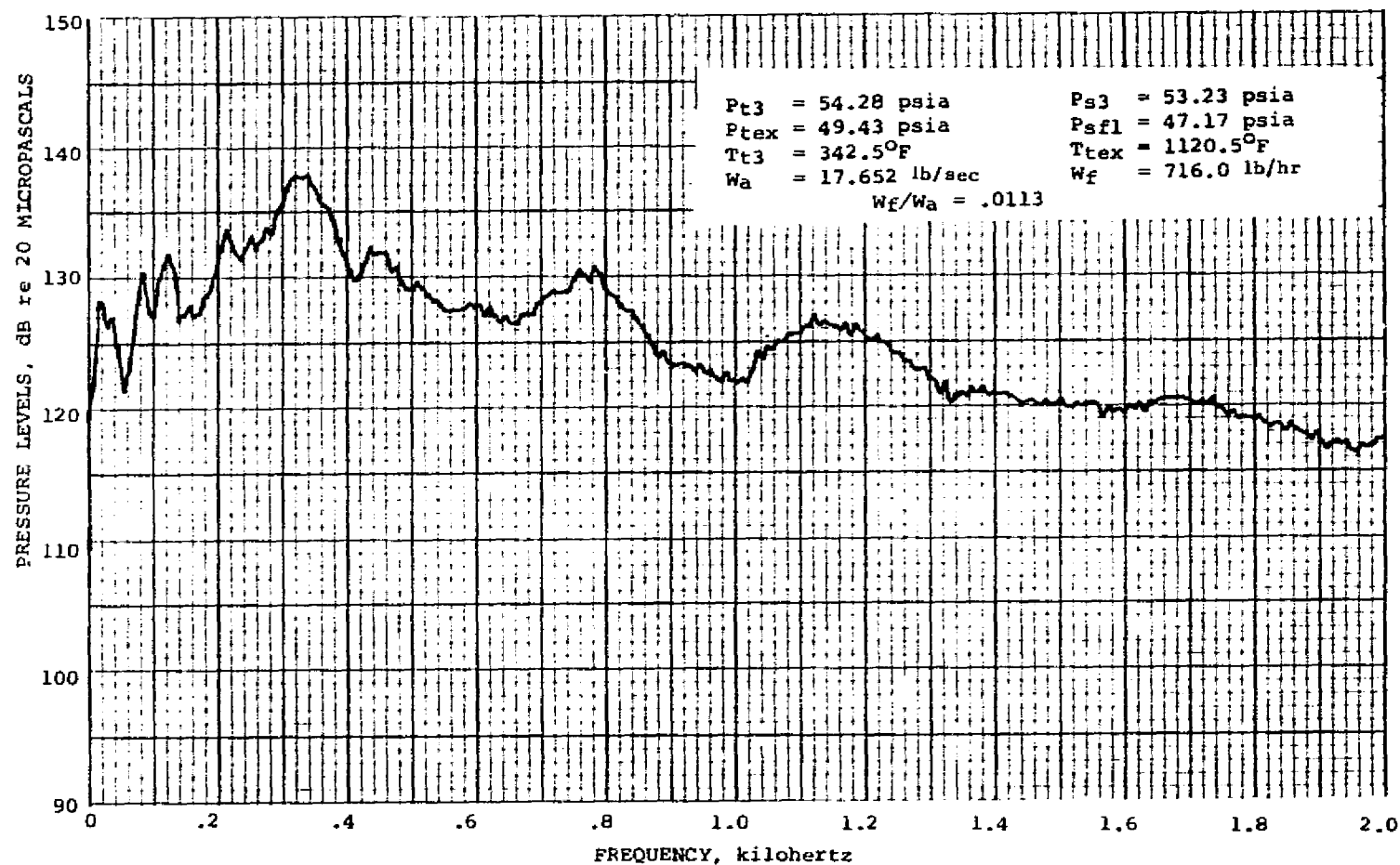
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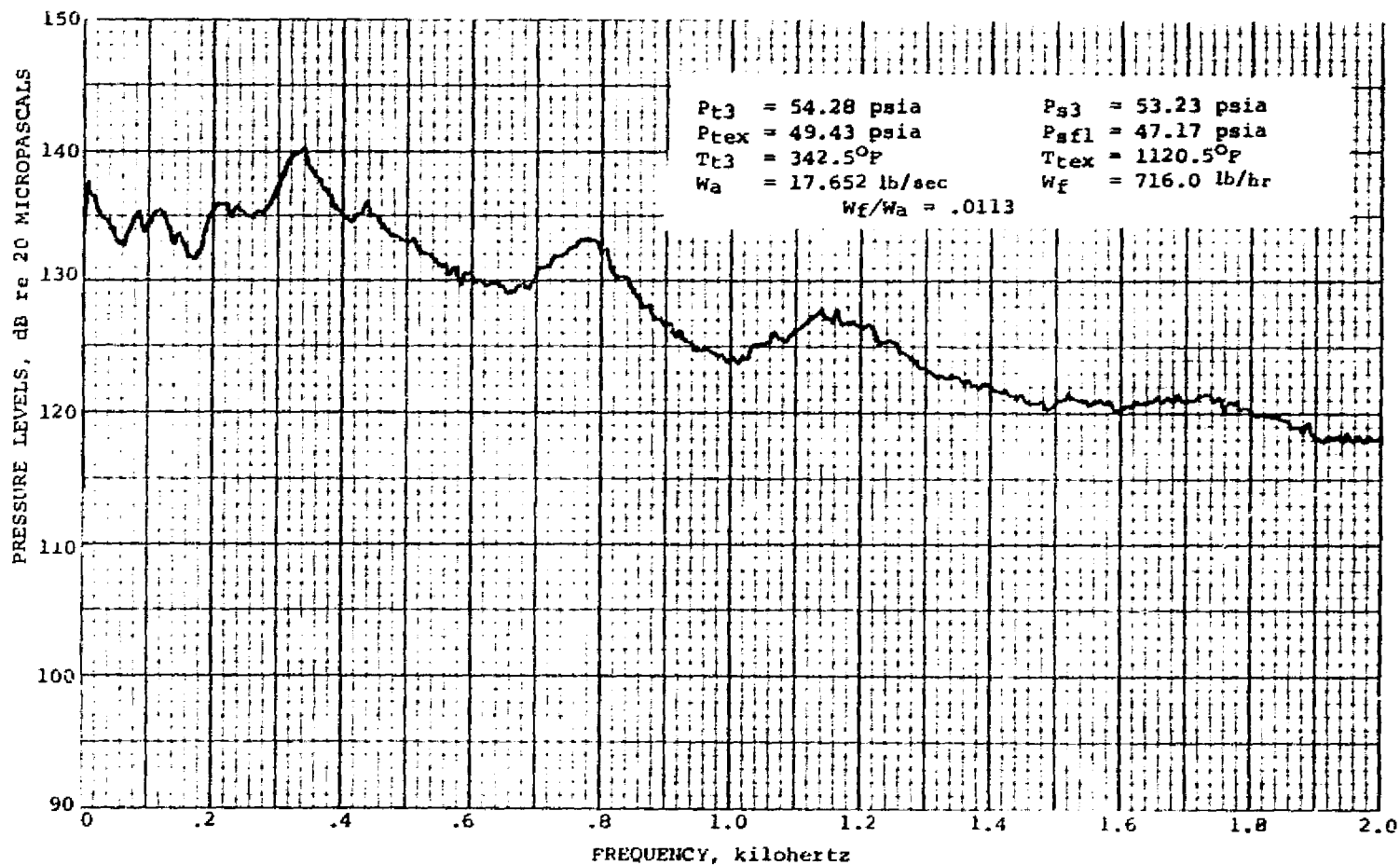
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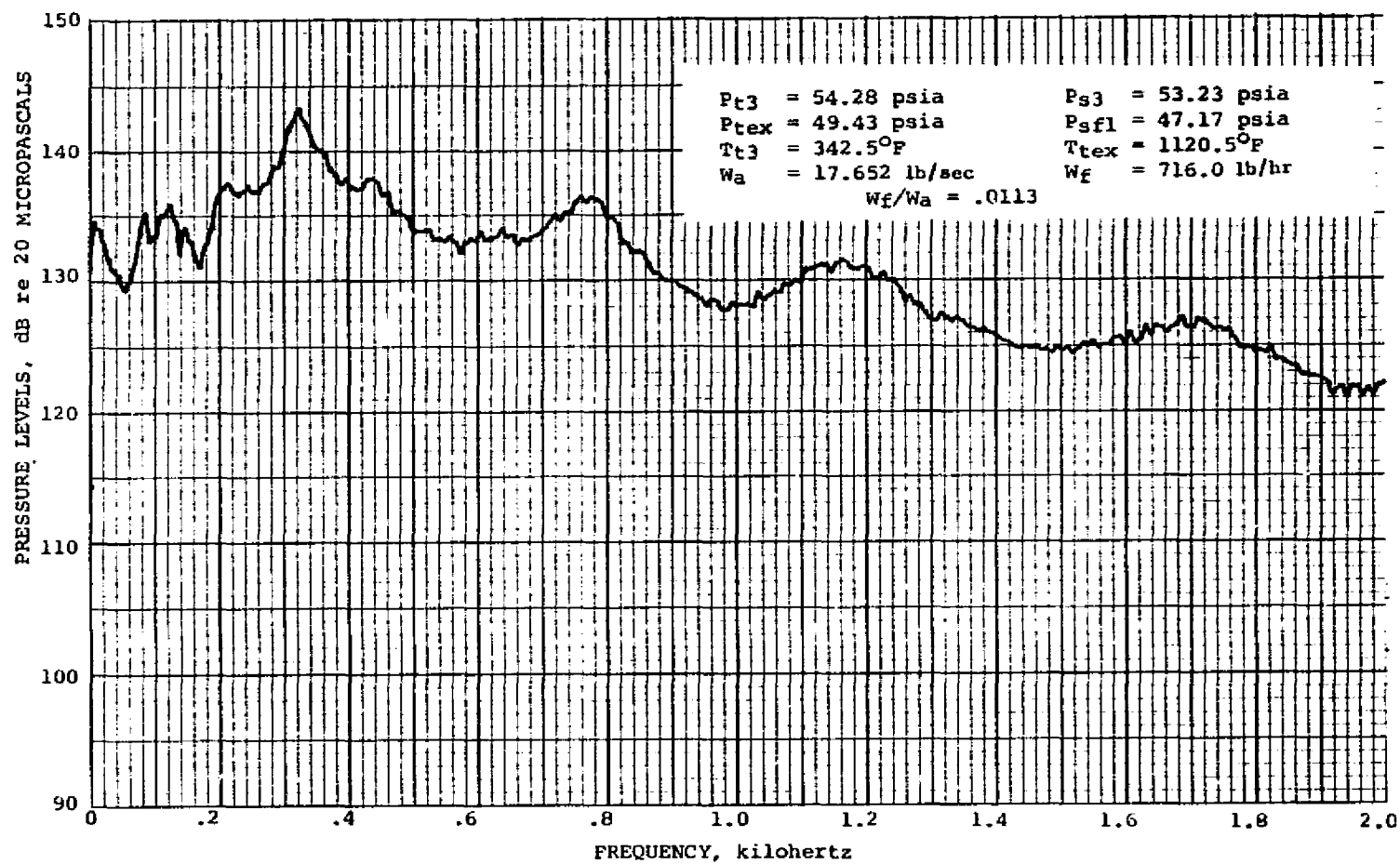
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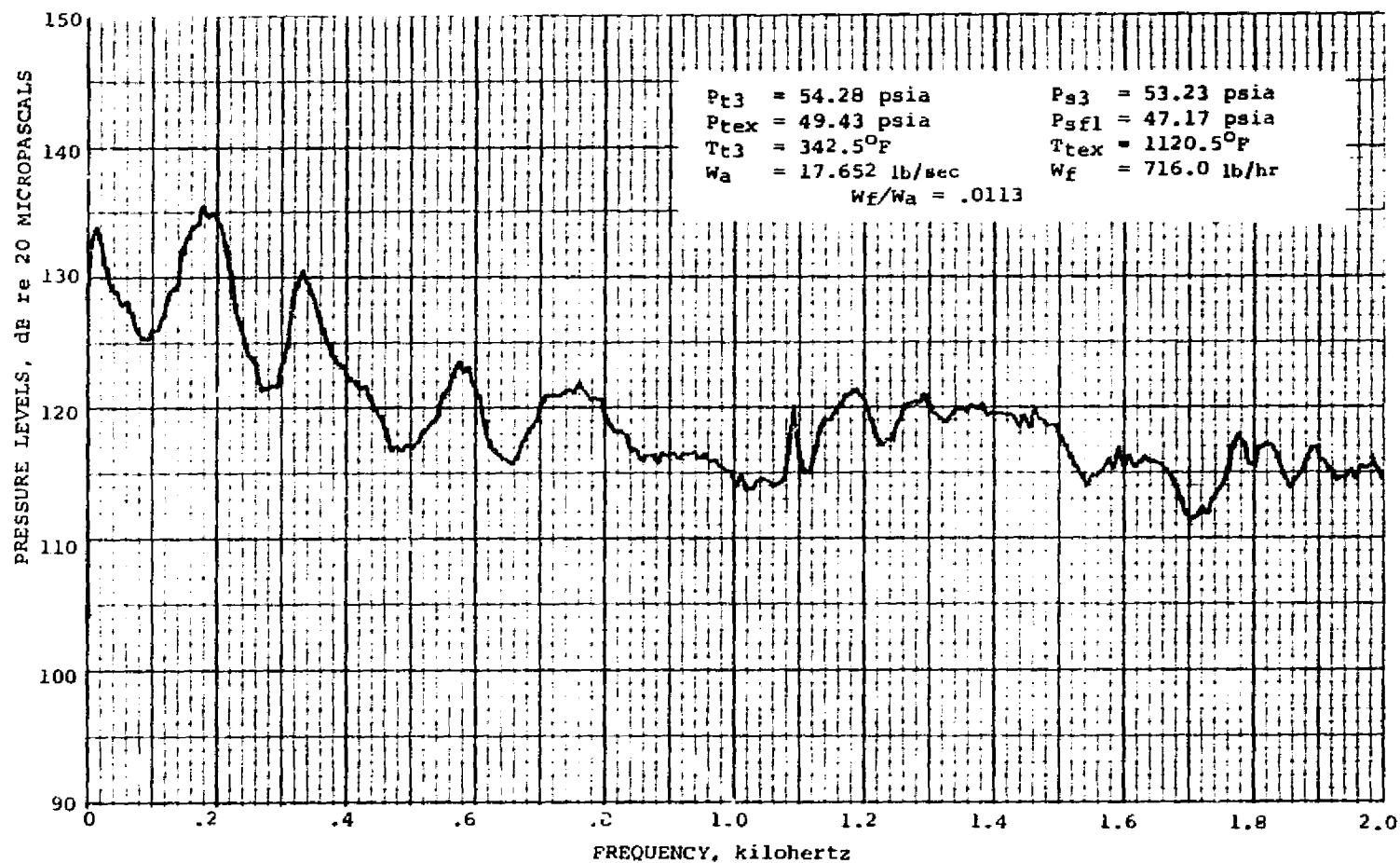
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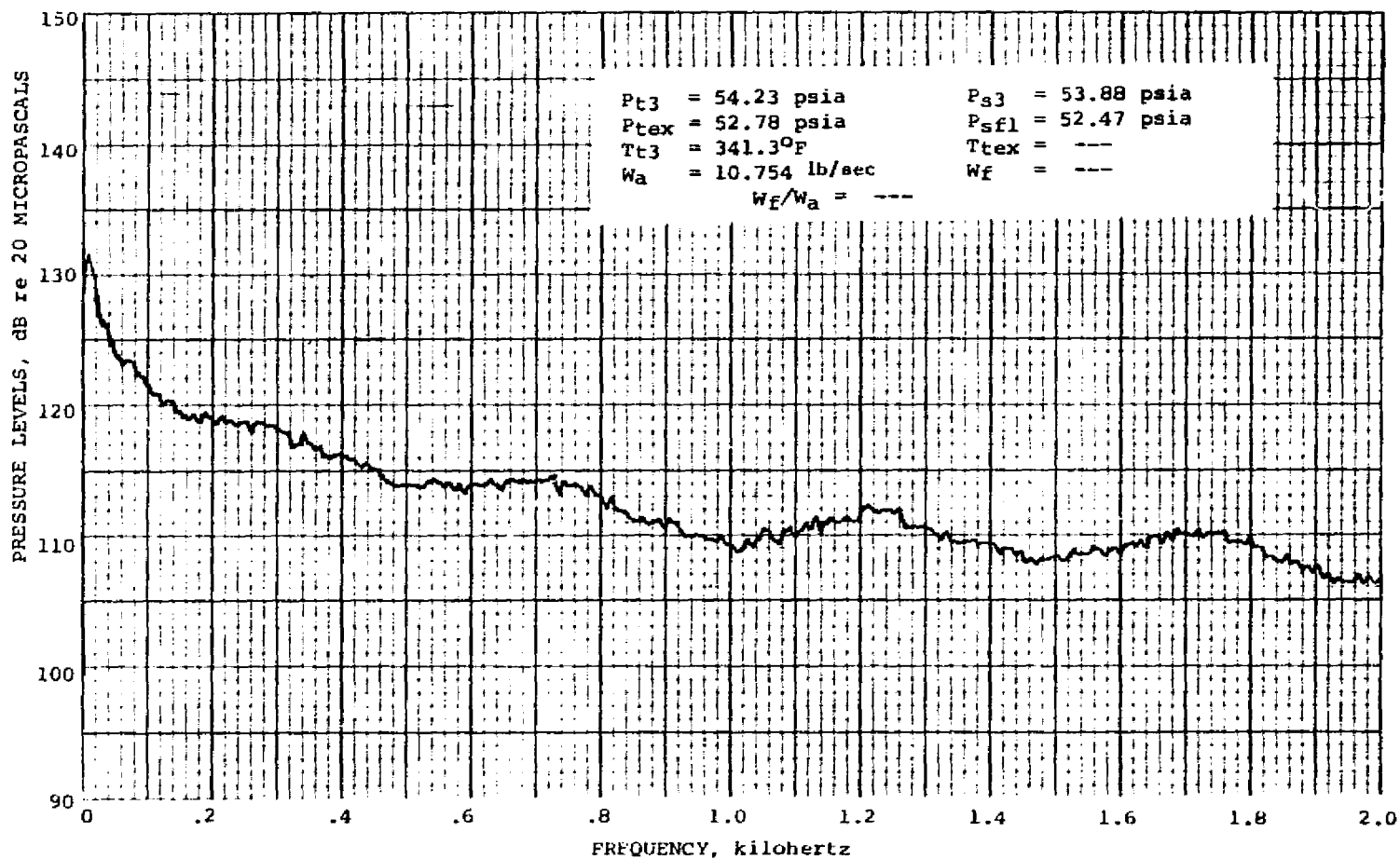
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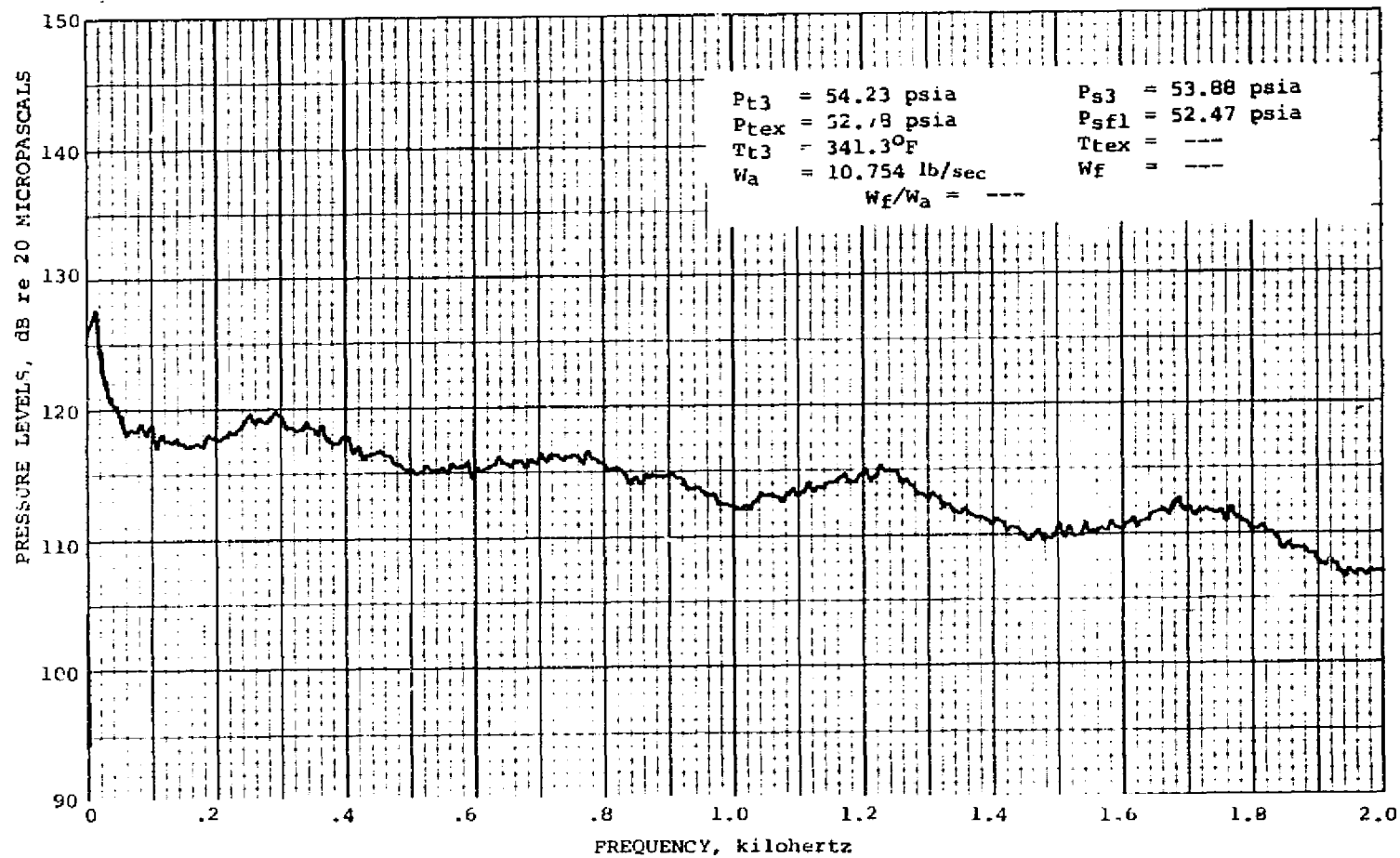
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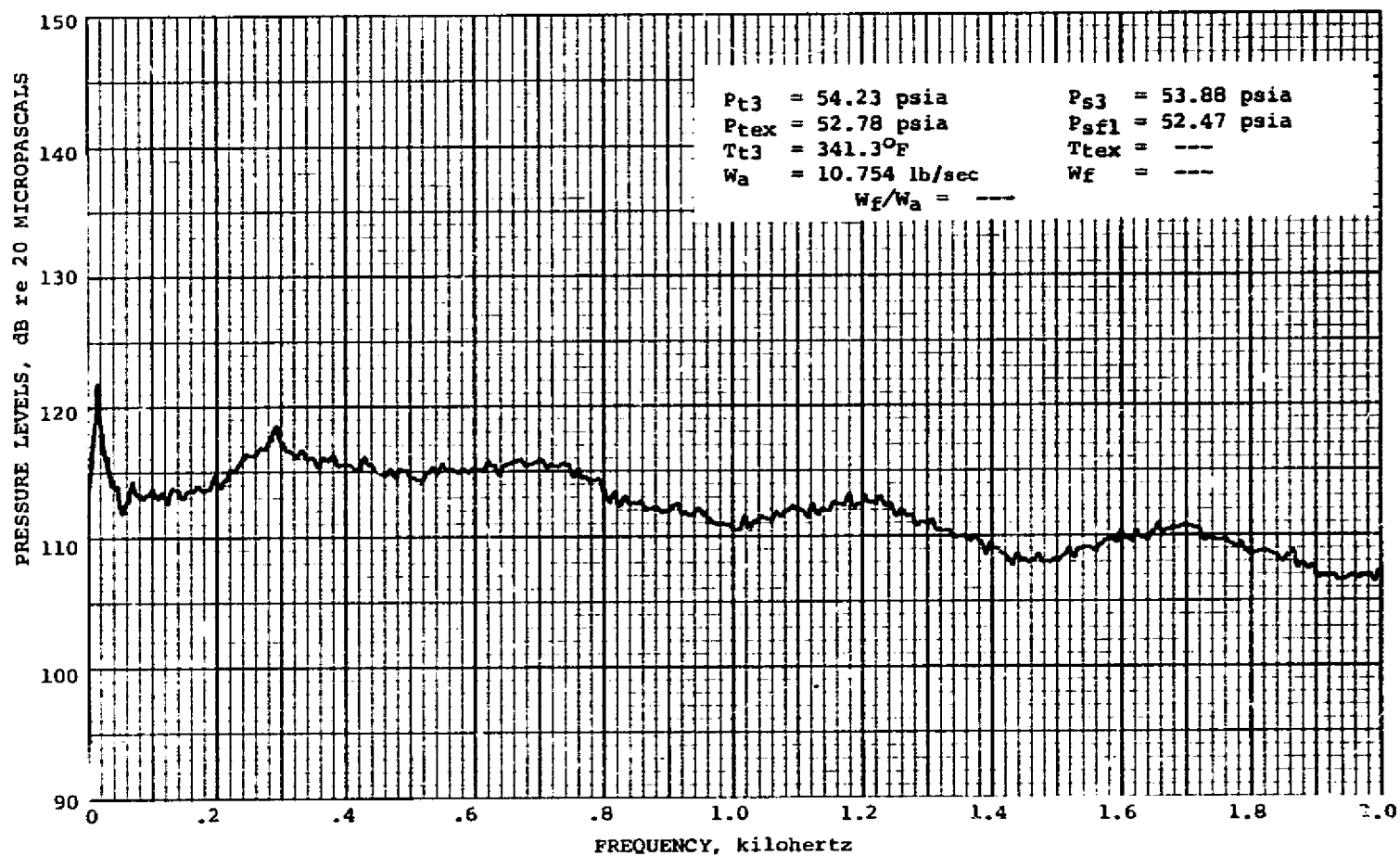
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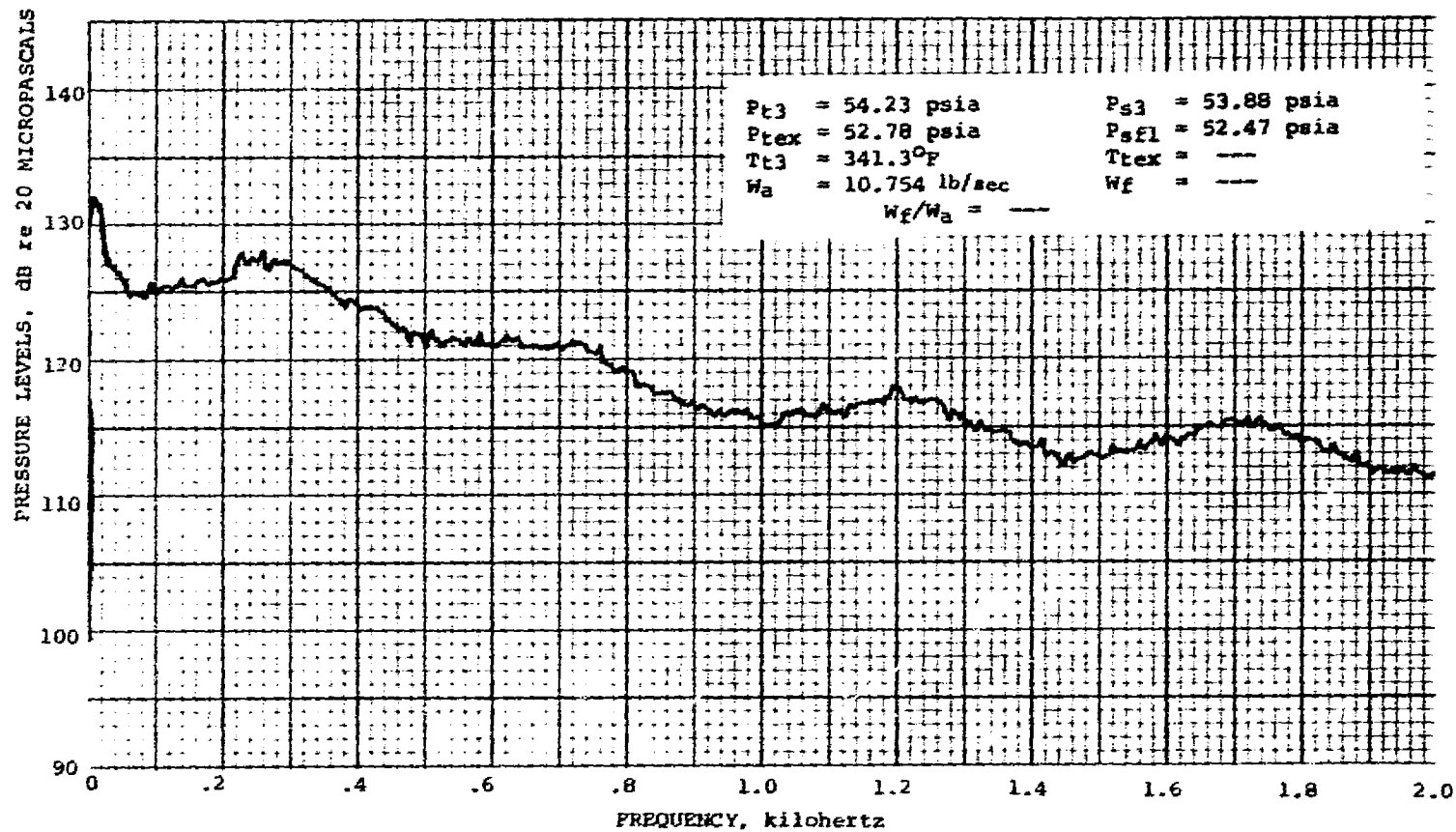
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 16



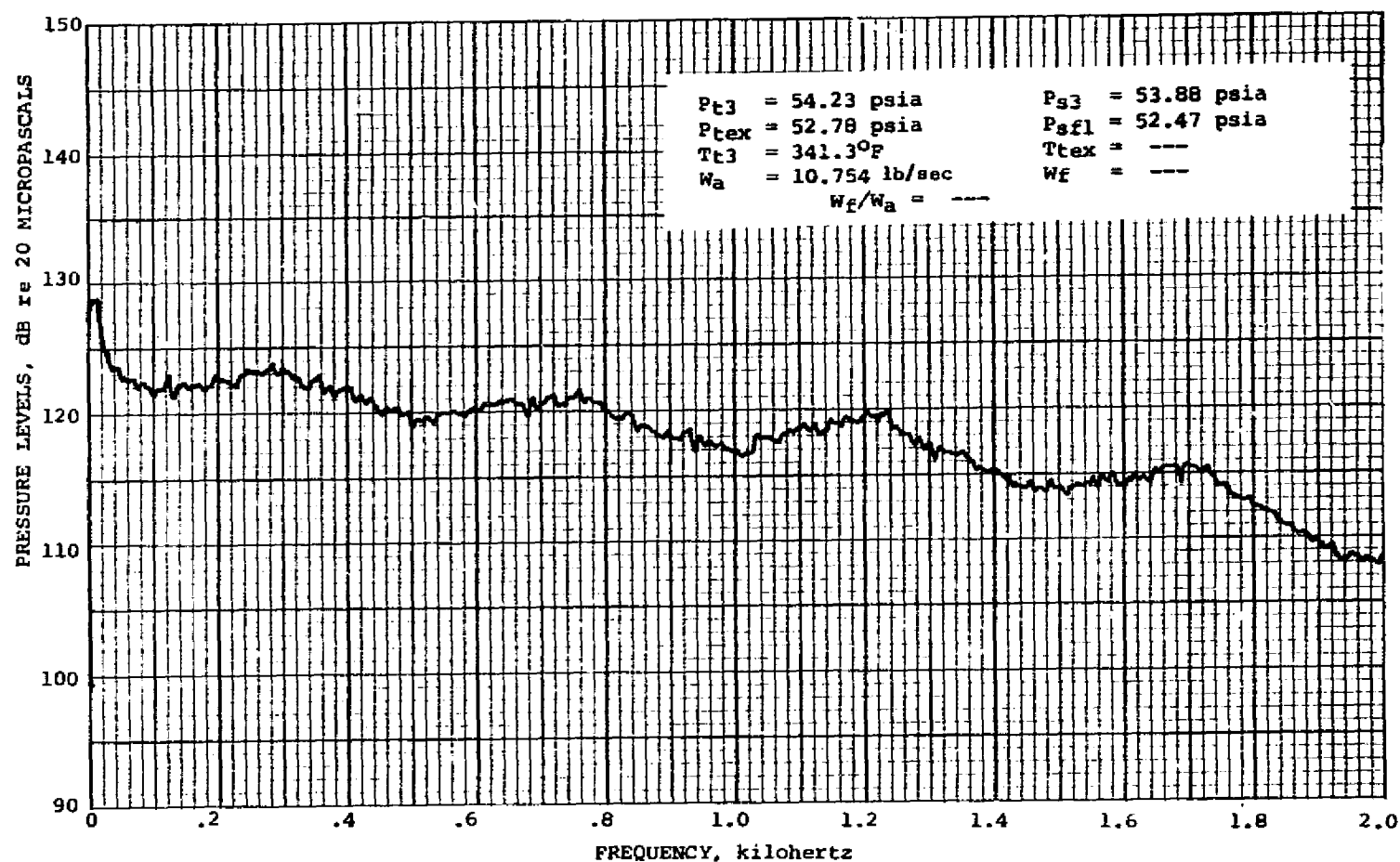
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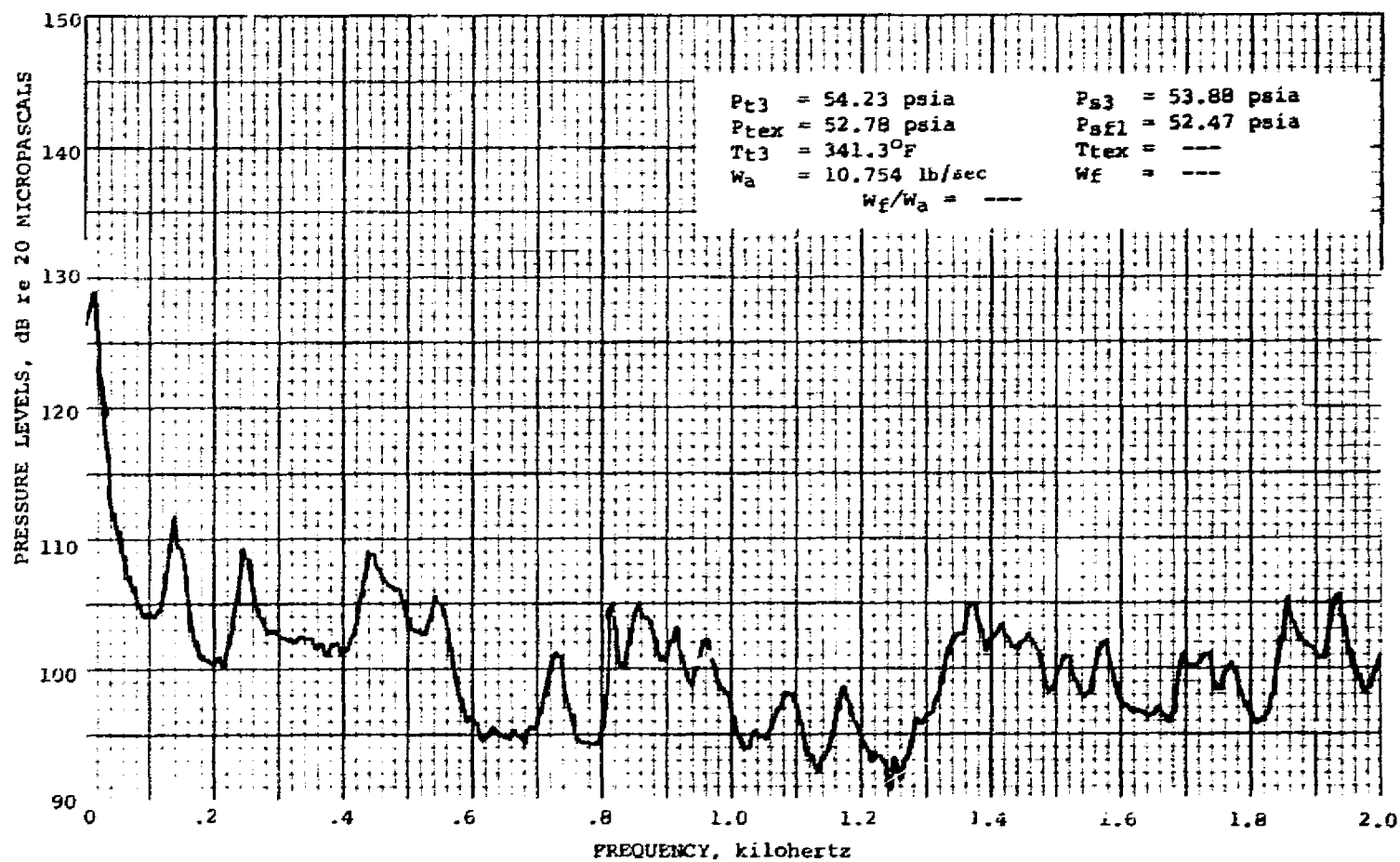
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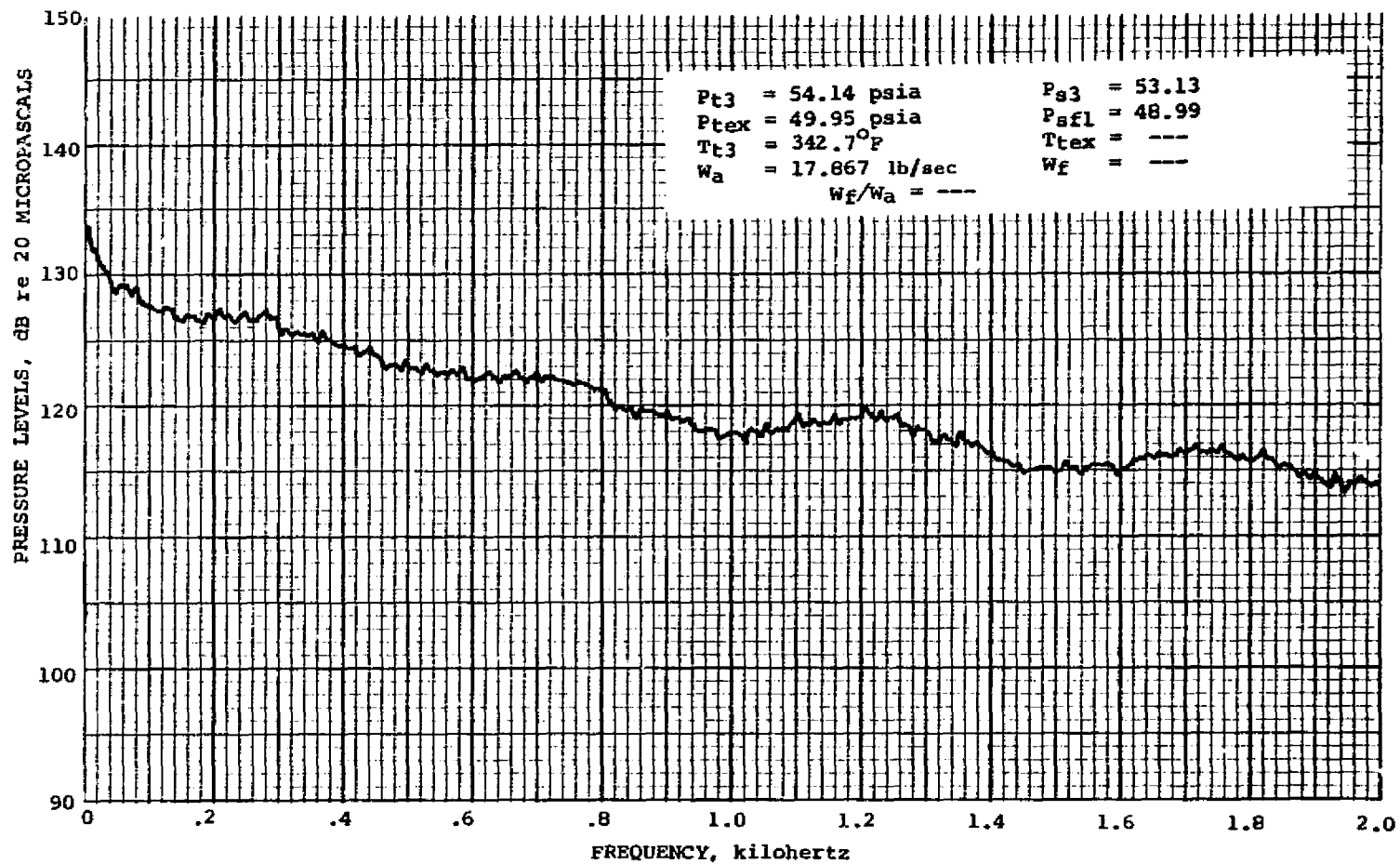
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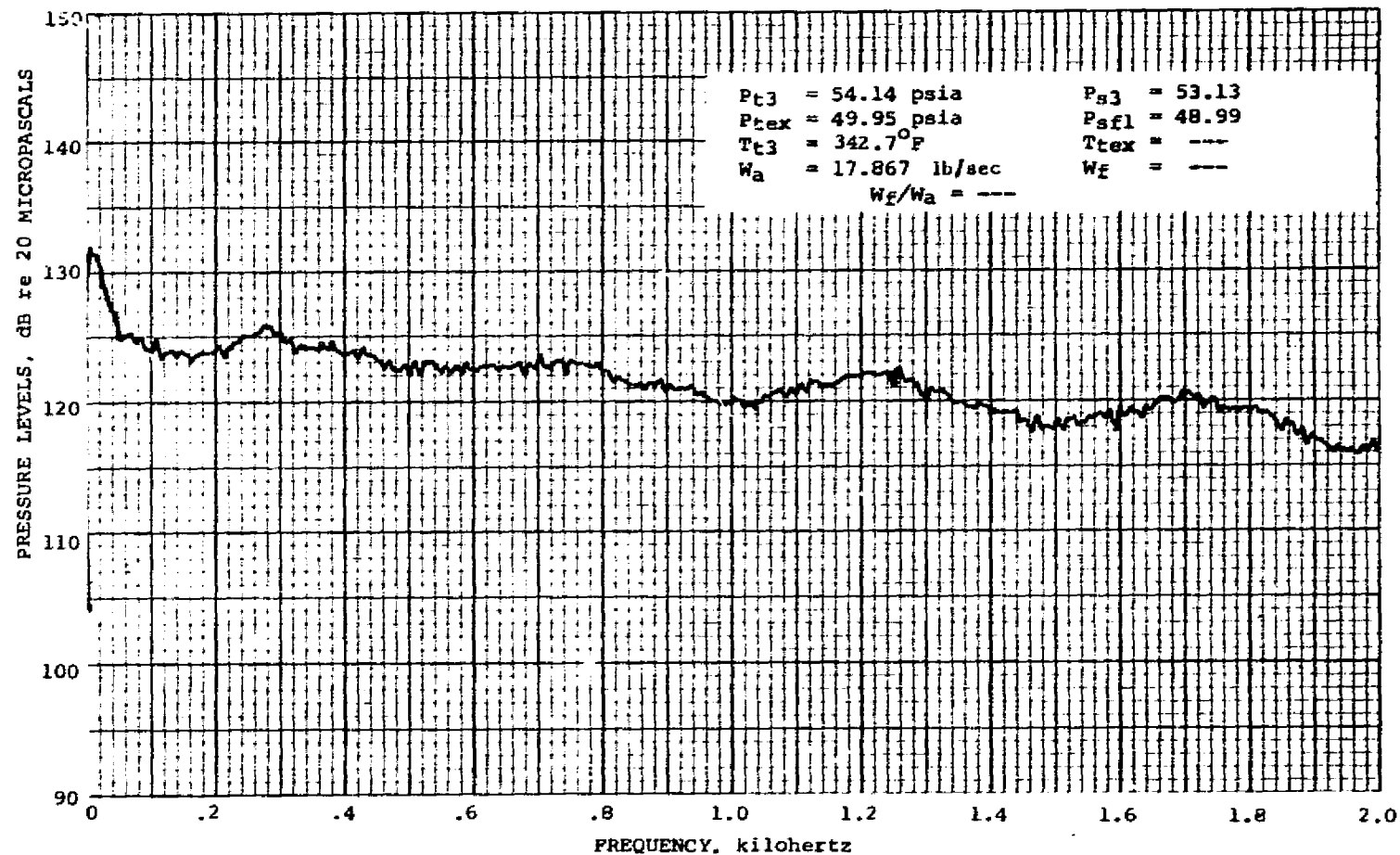
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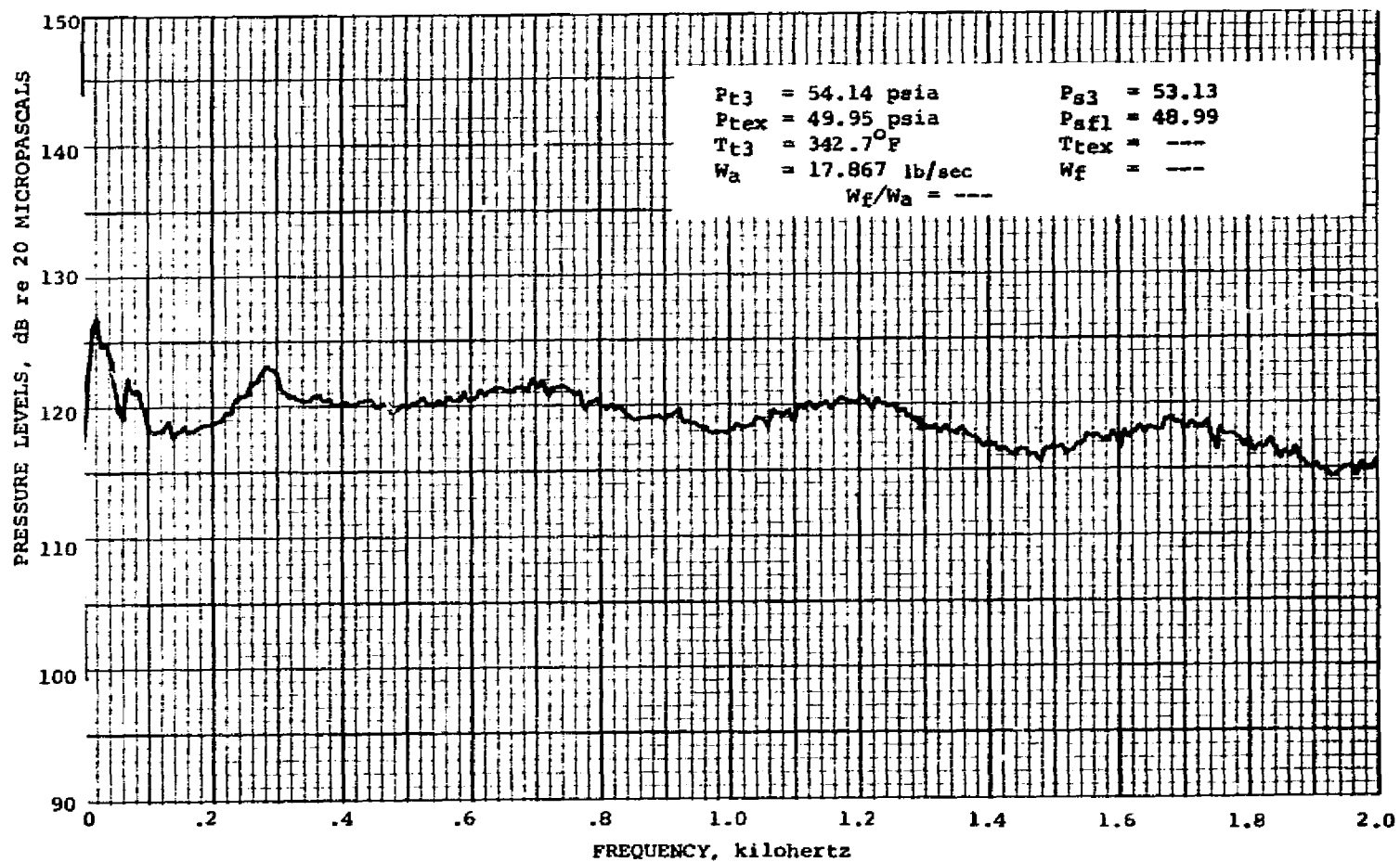
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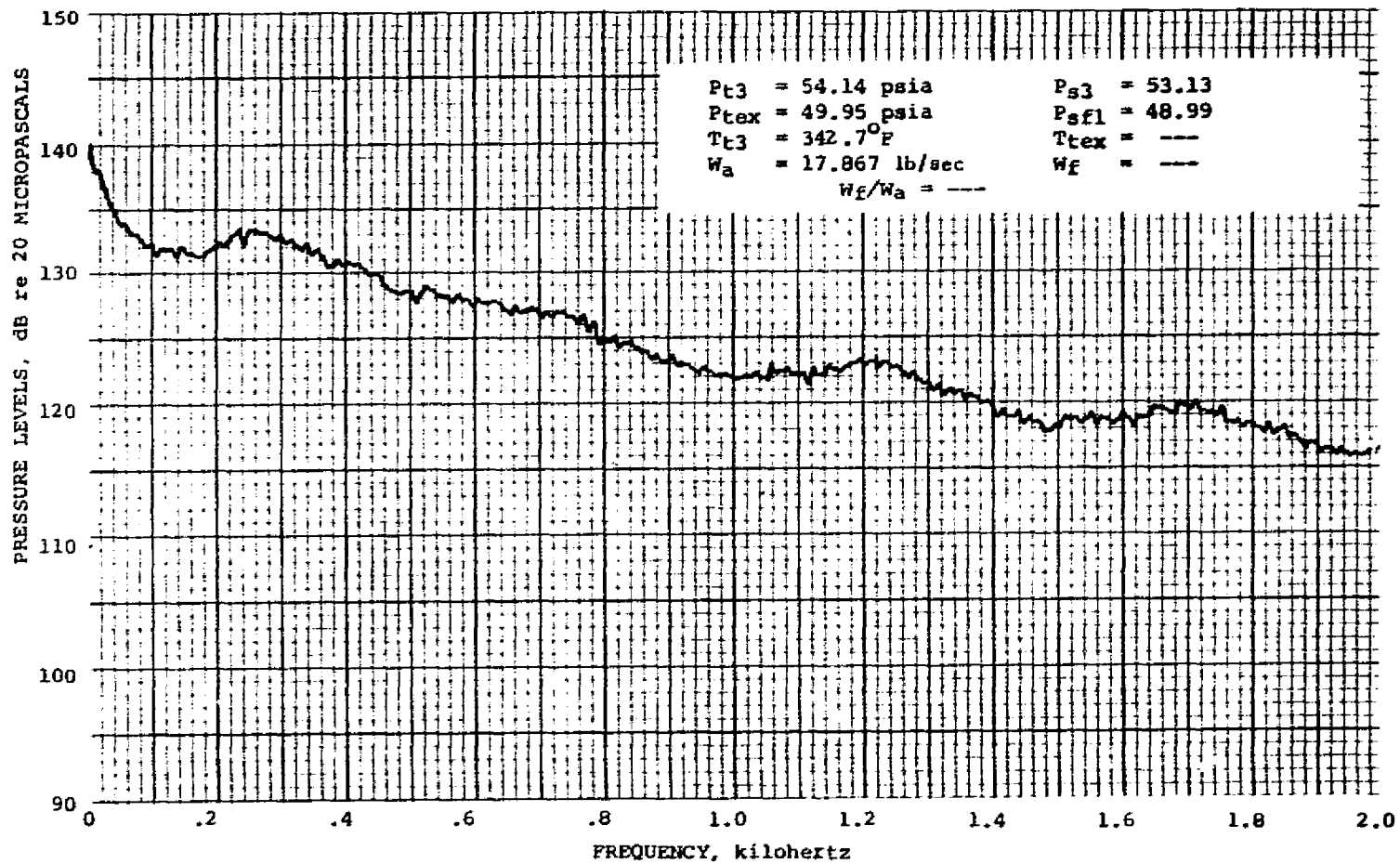
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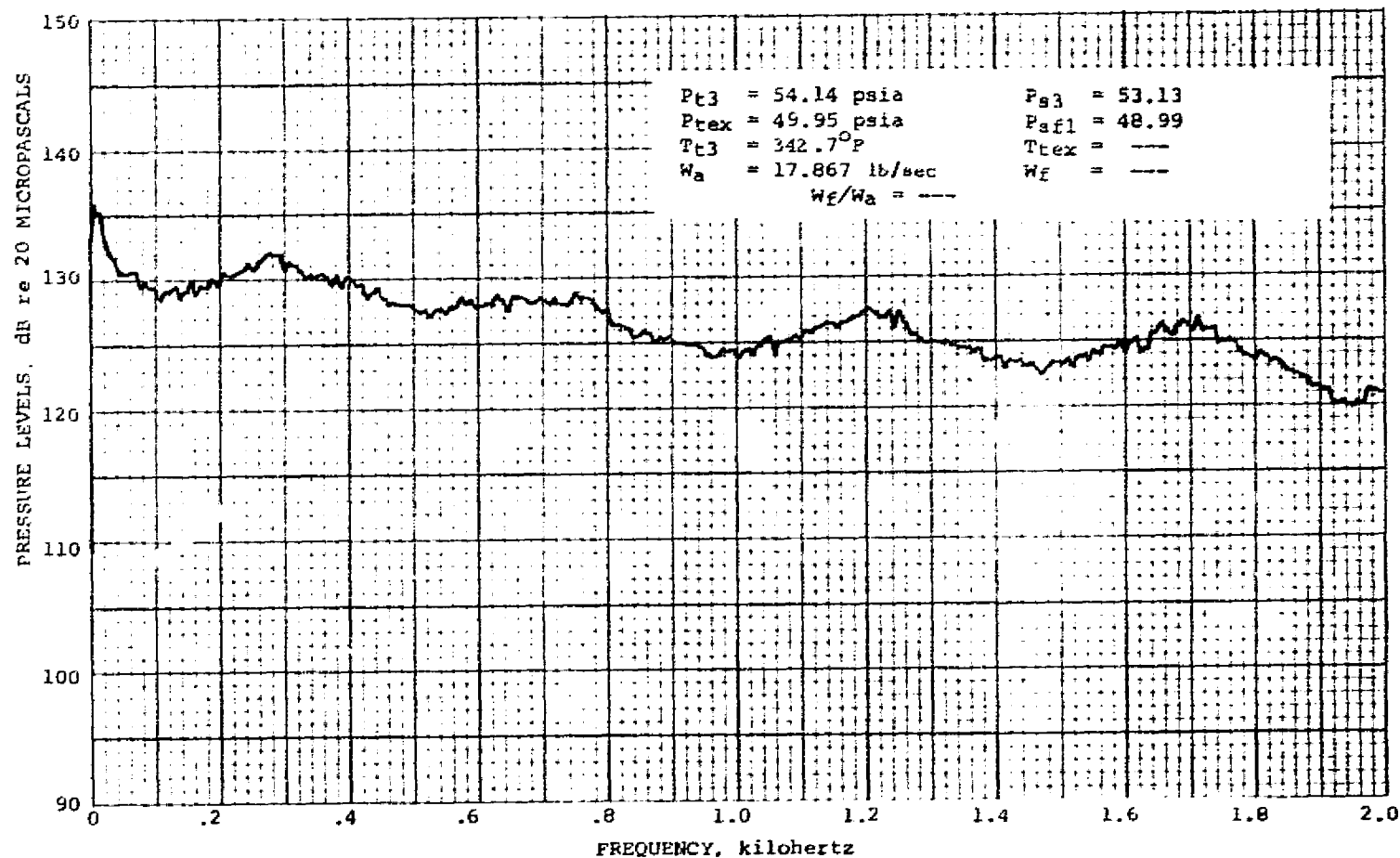


NARROW BAND SPECTRUM AT PROBE NUMBER ² DURING RUN POINT NUMBER 17

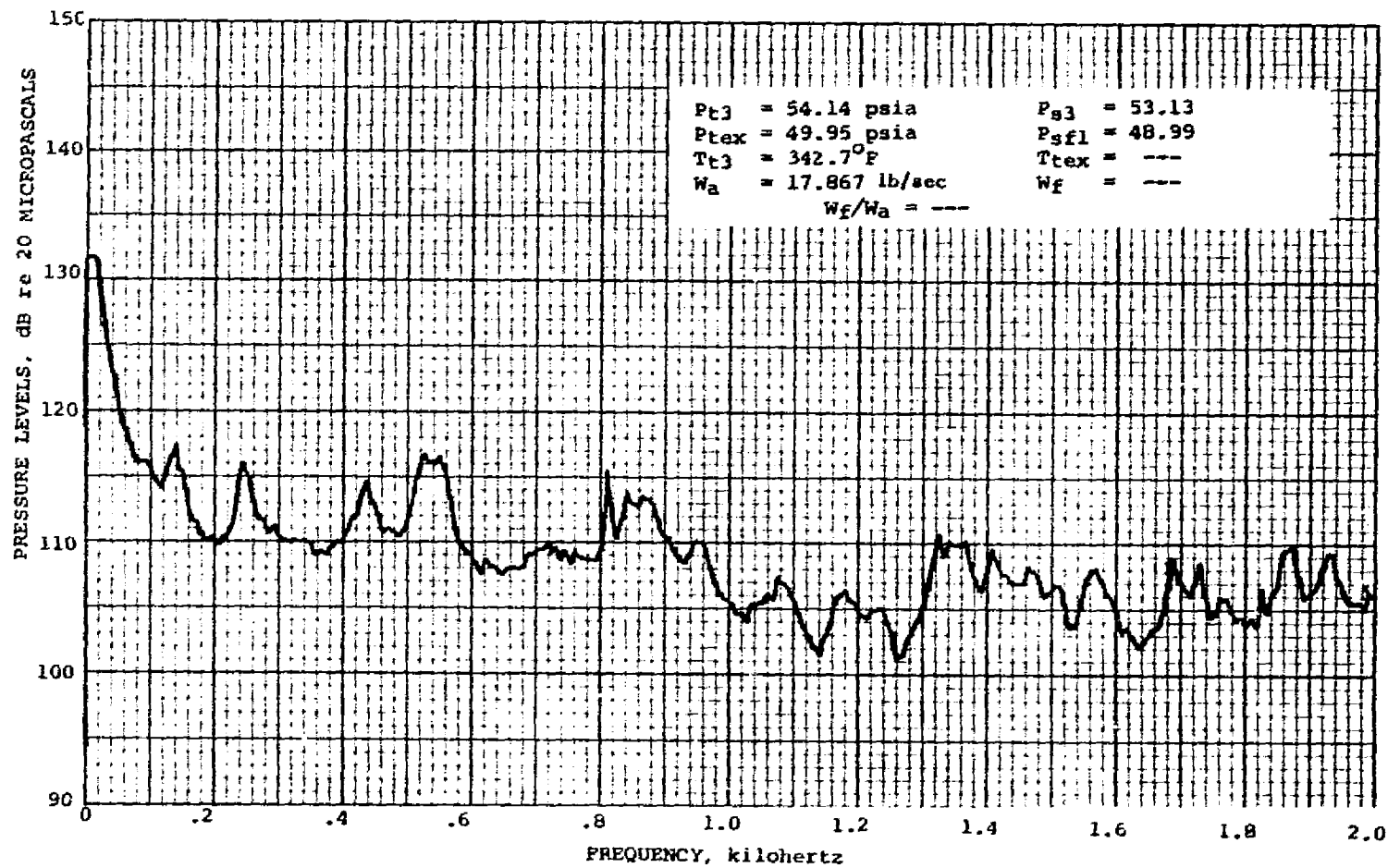


NARROW BAND SPECTRUM AT PROBE NUMBER 3 DURING RUN POINT NUMBER 17

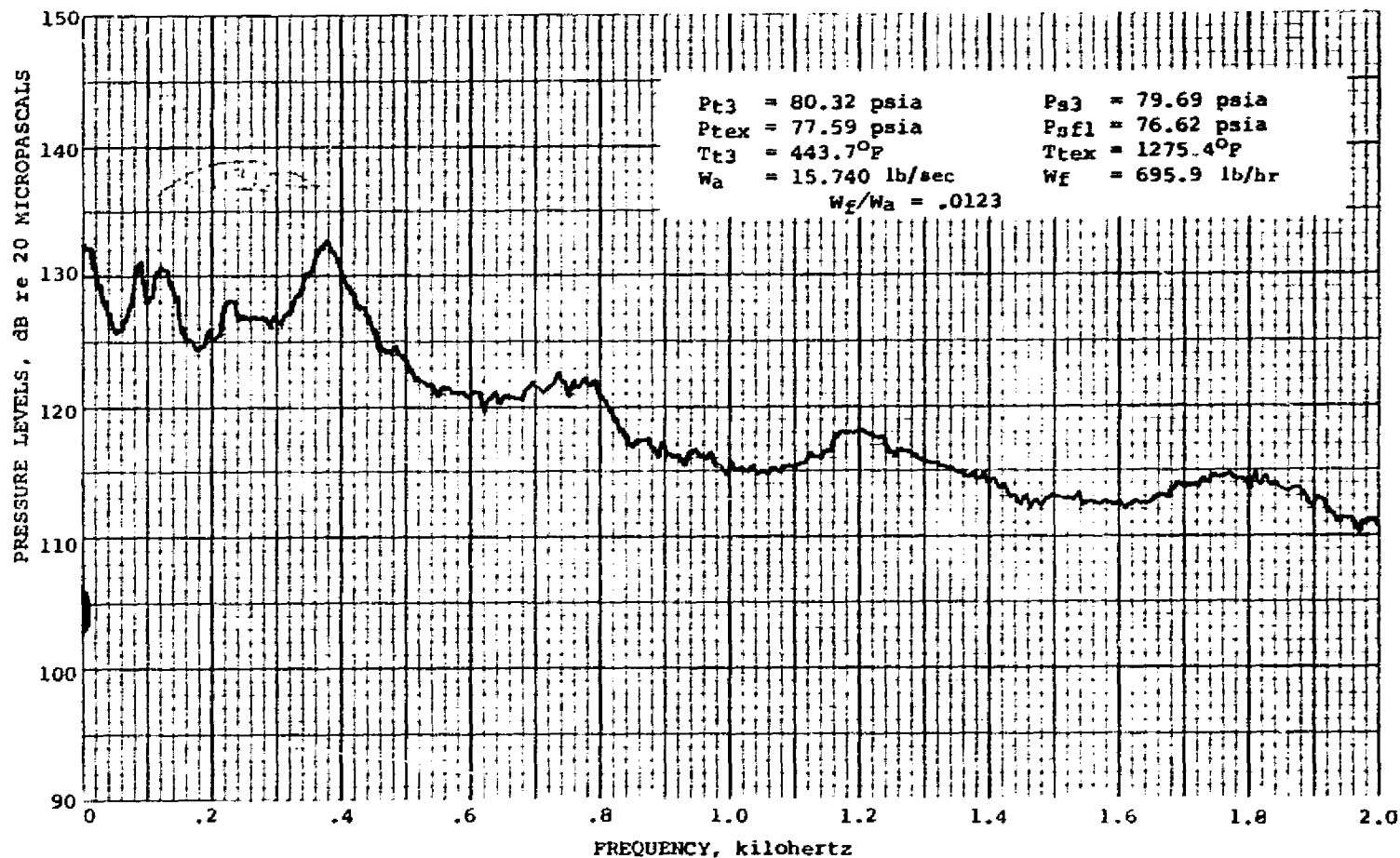




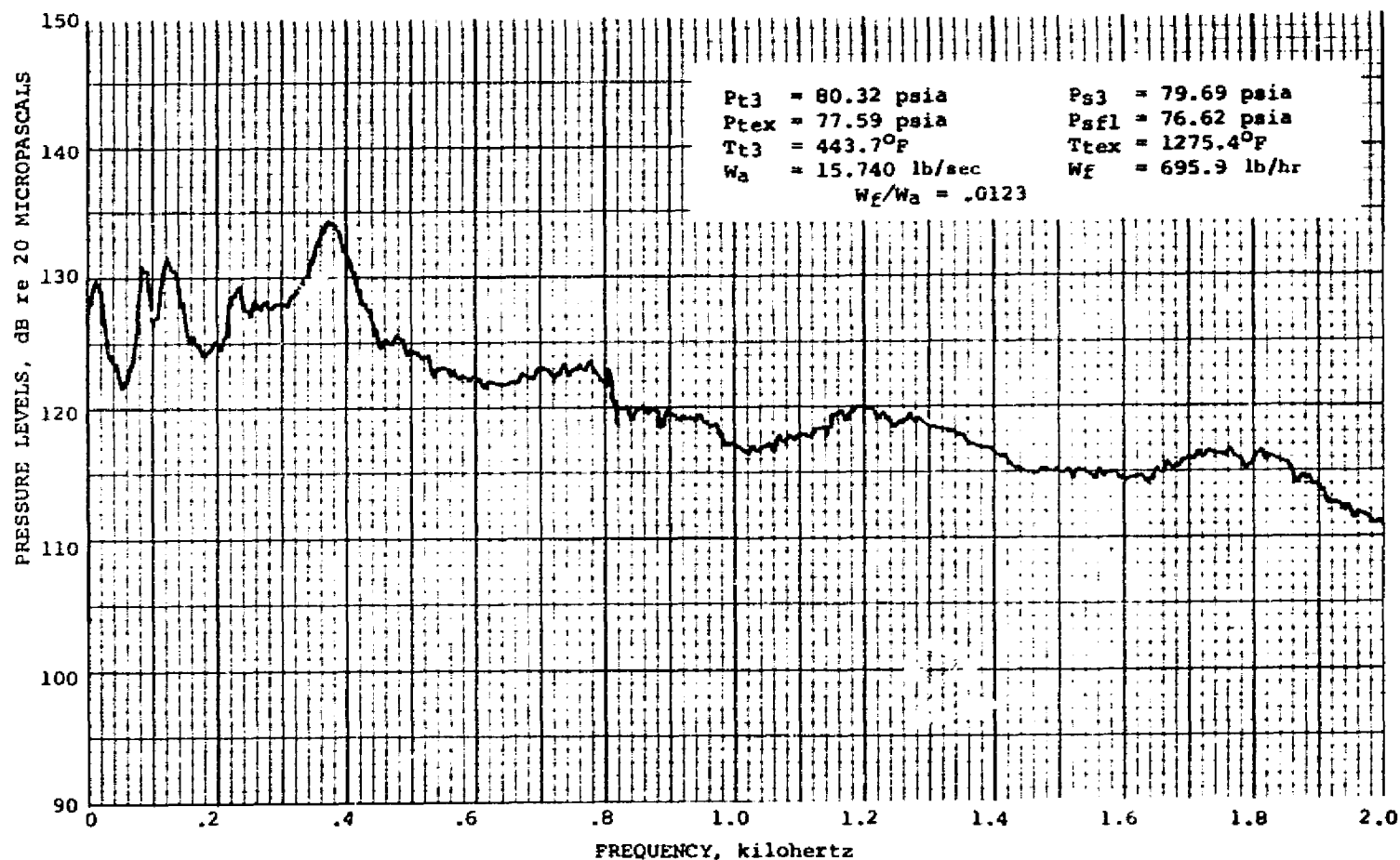
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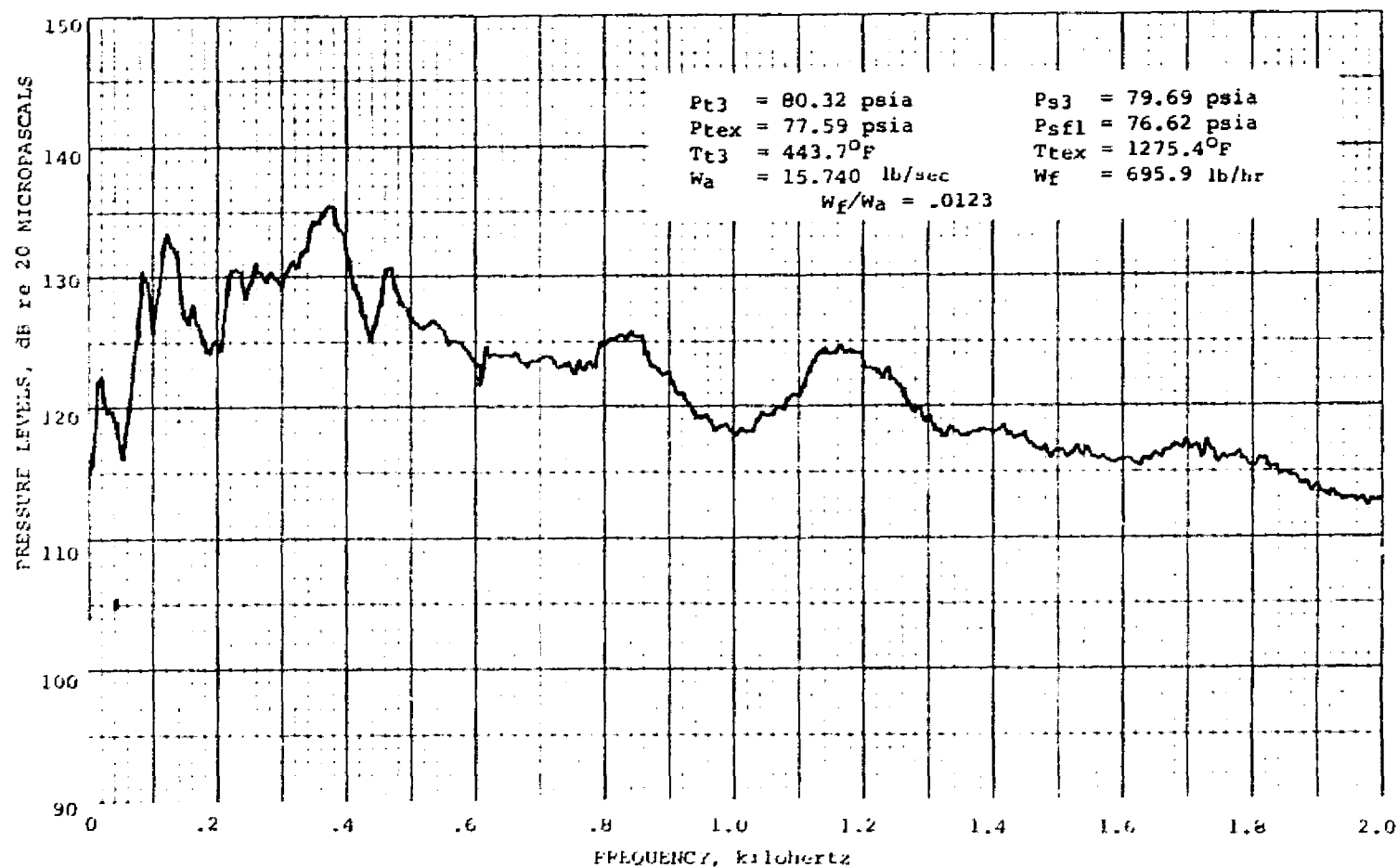
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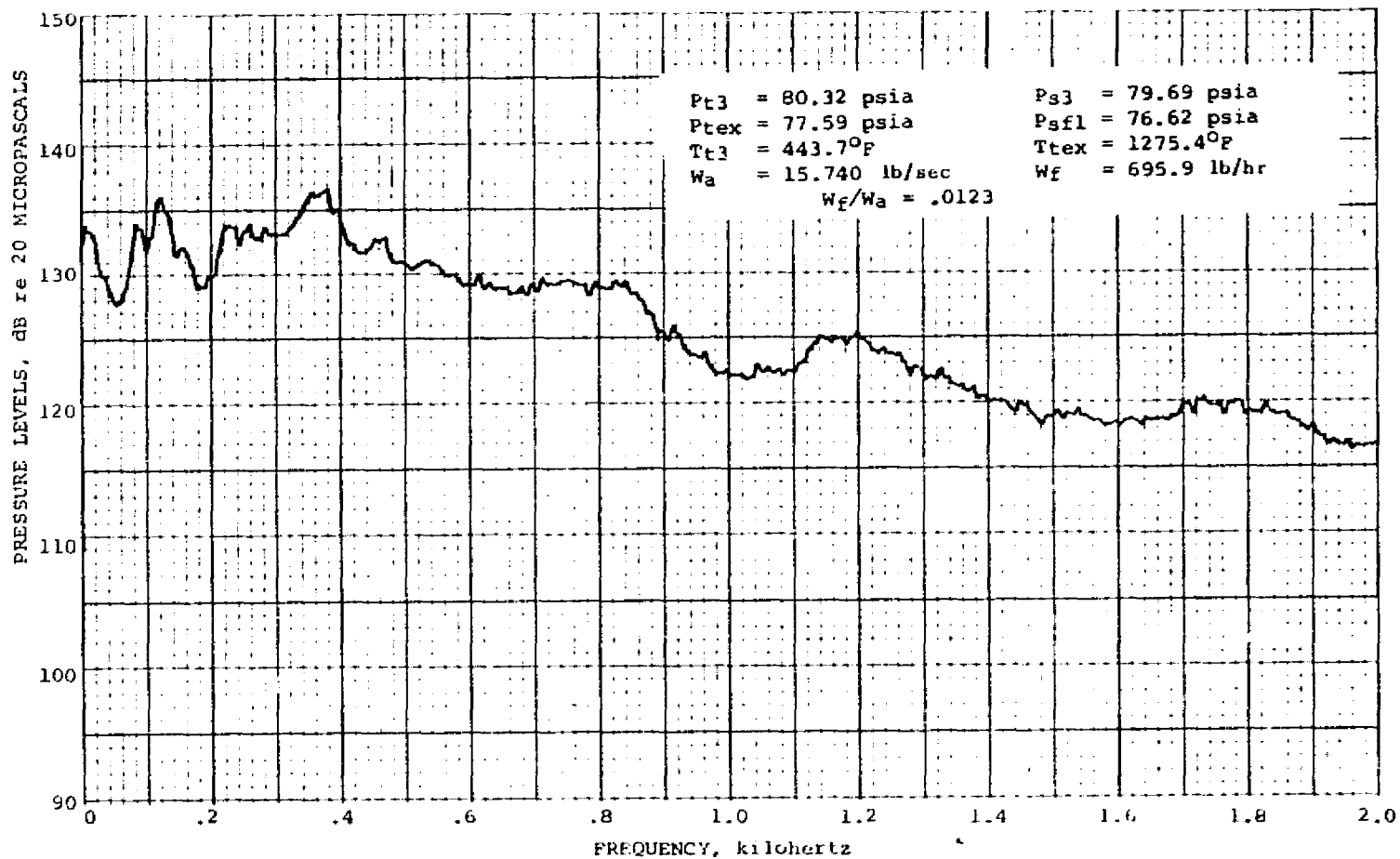
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 26



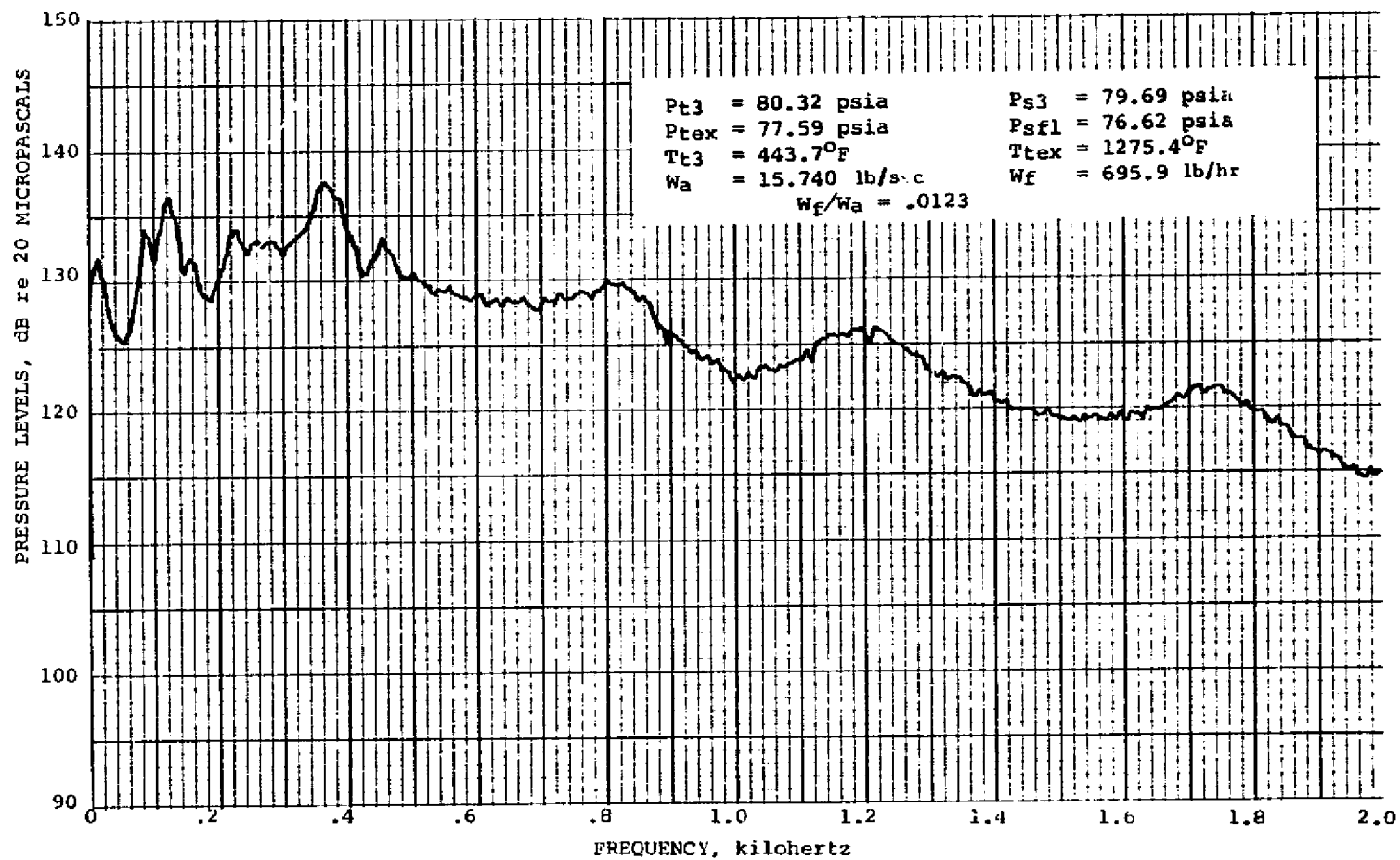
NARROW BAND SPECTRUM AT PROBE NUMBER 2 DURING RUN POINT NUMBER 26



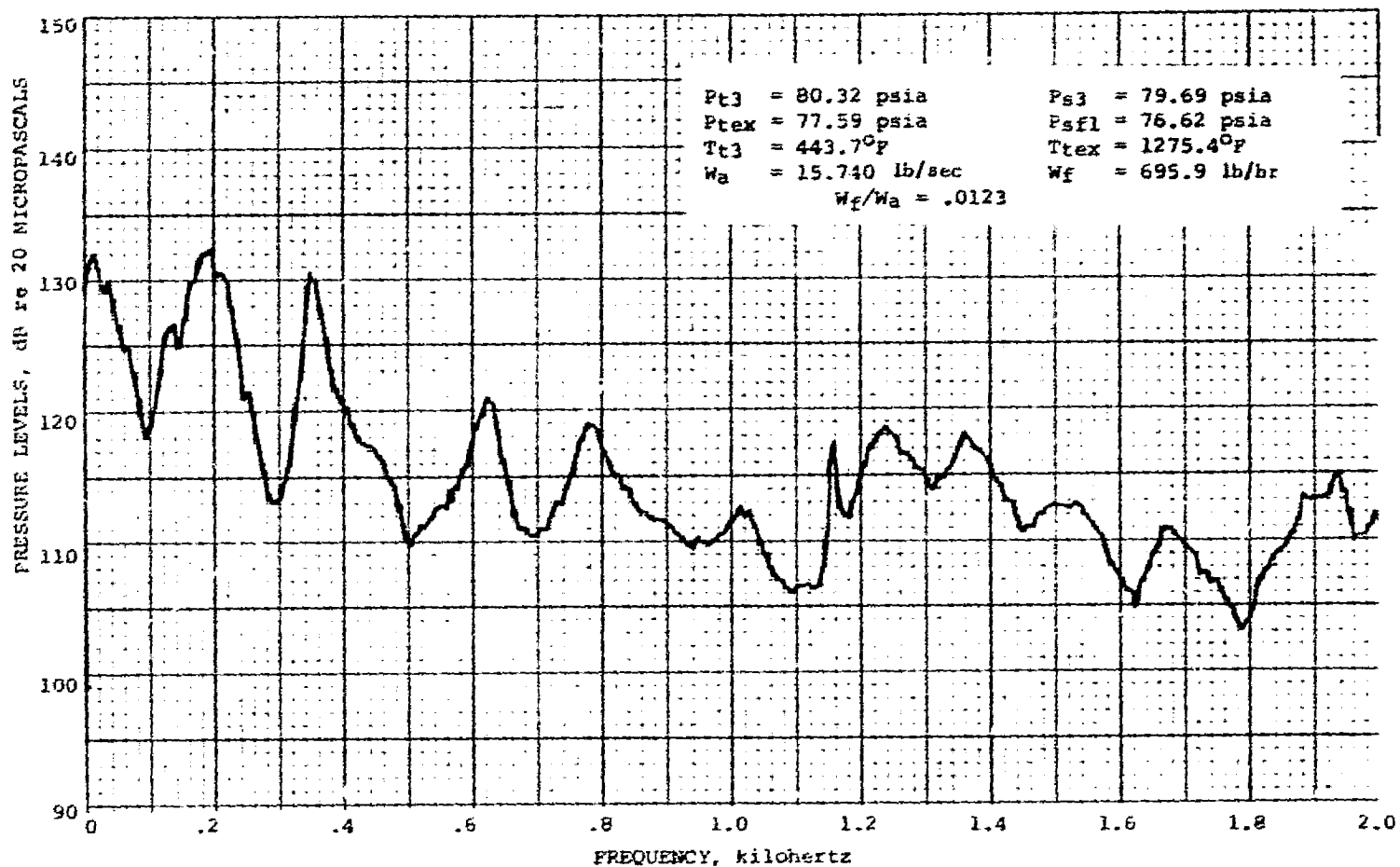
NARROW BAND SPECTRUM AT PROBE NUMBER 3 DURING RUN POINT NUMBER 26



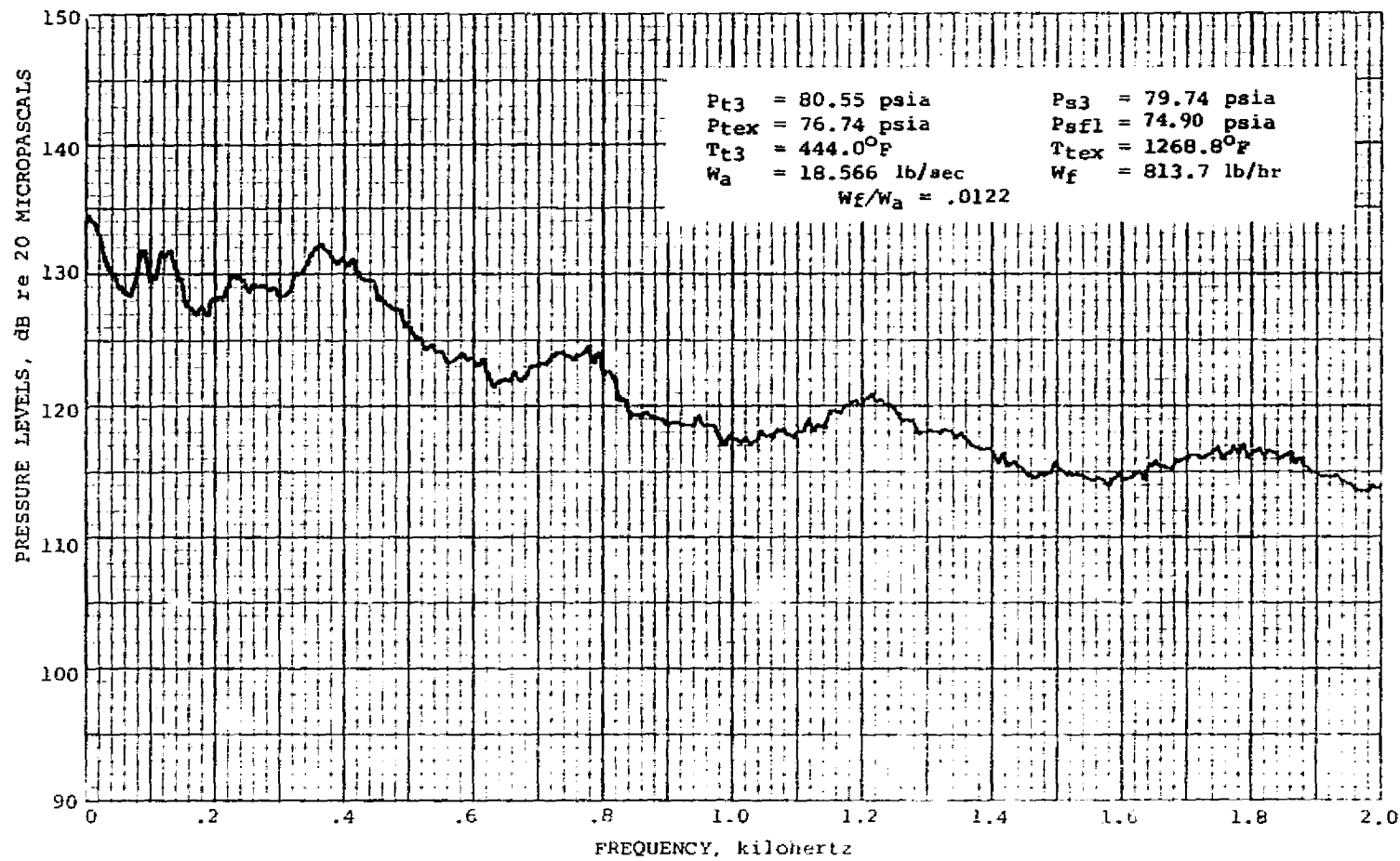
NARROW BAND SPECTRUM AT PROBE NUMBER 4 DURING RUN POINT NUMBER 26



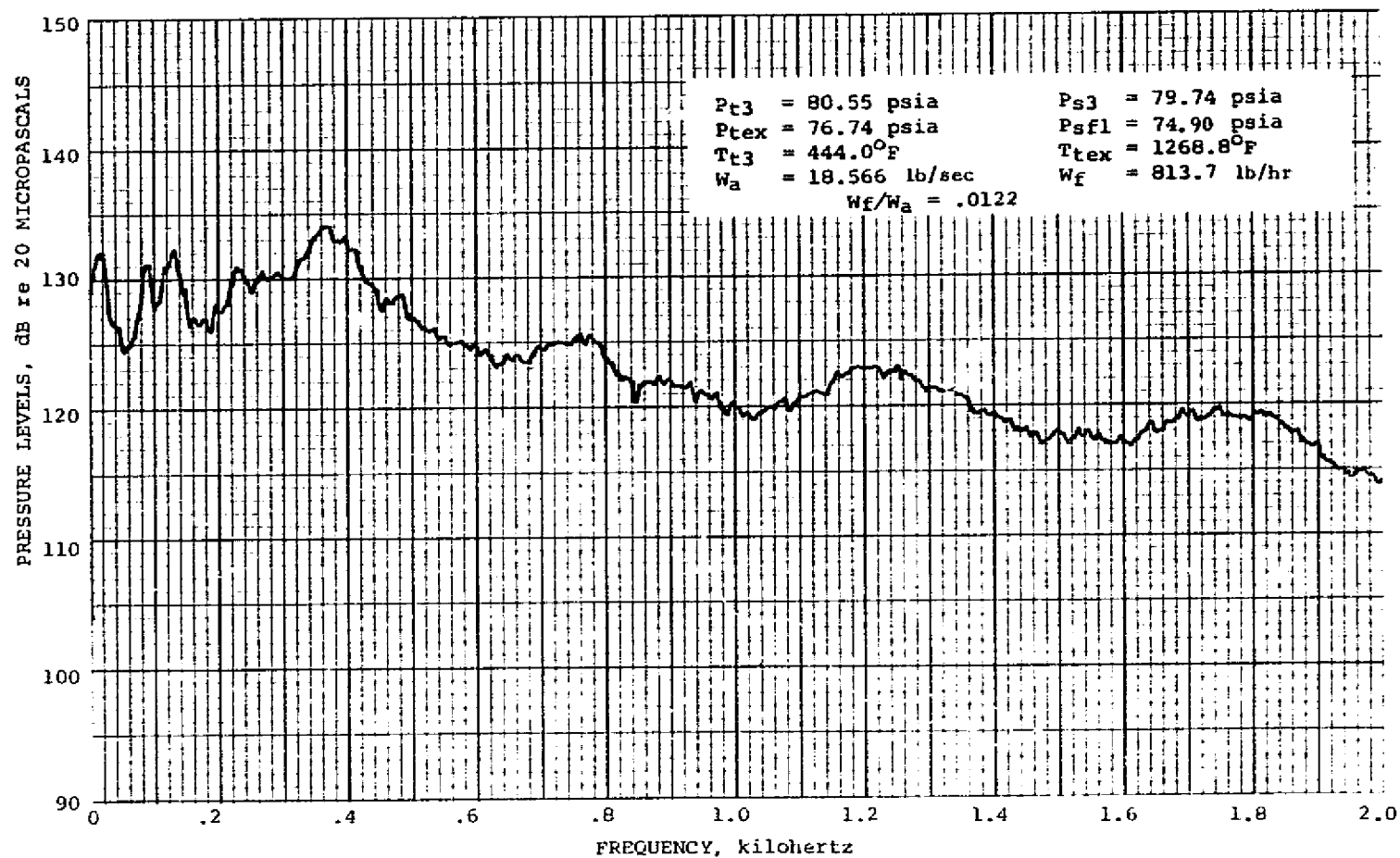
NARROW BAND SPECTRUM AT PROBE NUMBER 5 DURING RUN POINT NUMBER 26



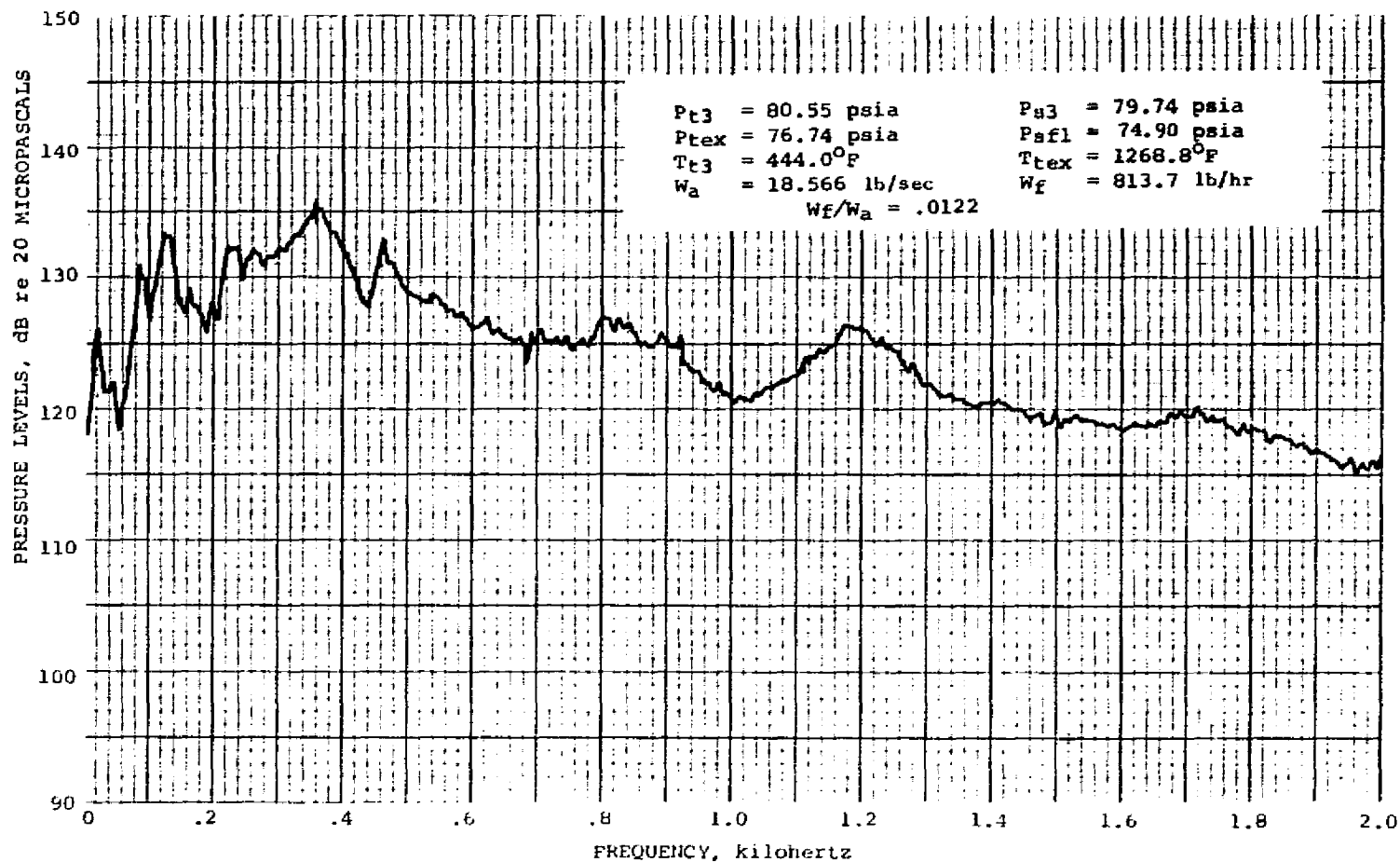
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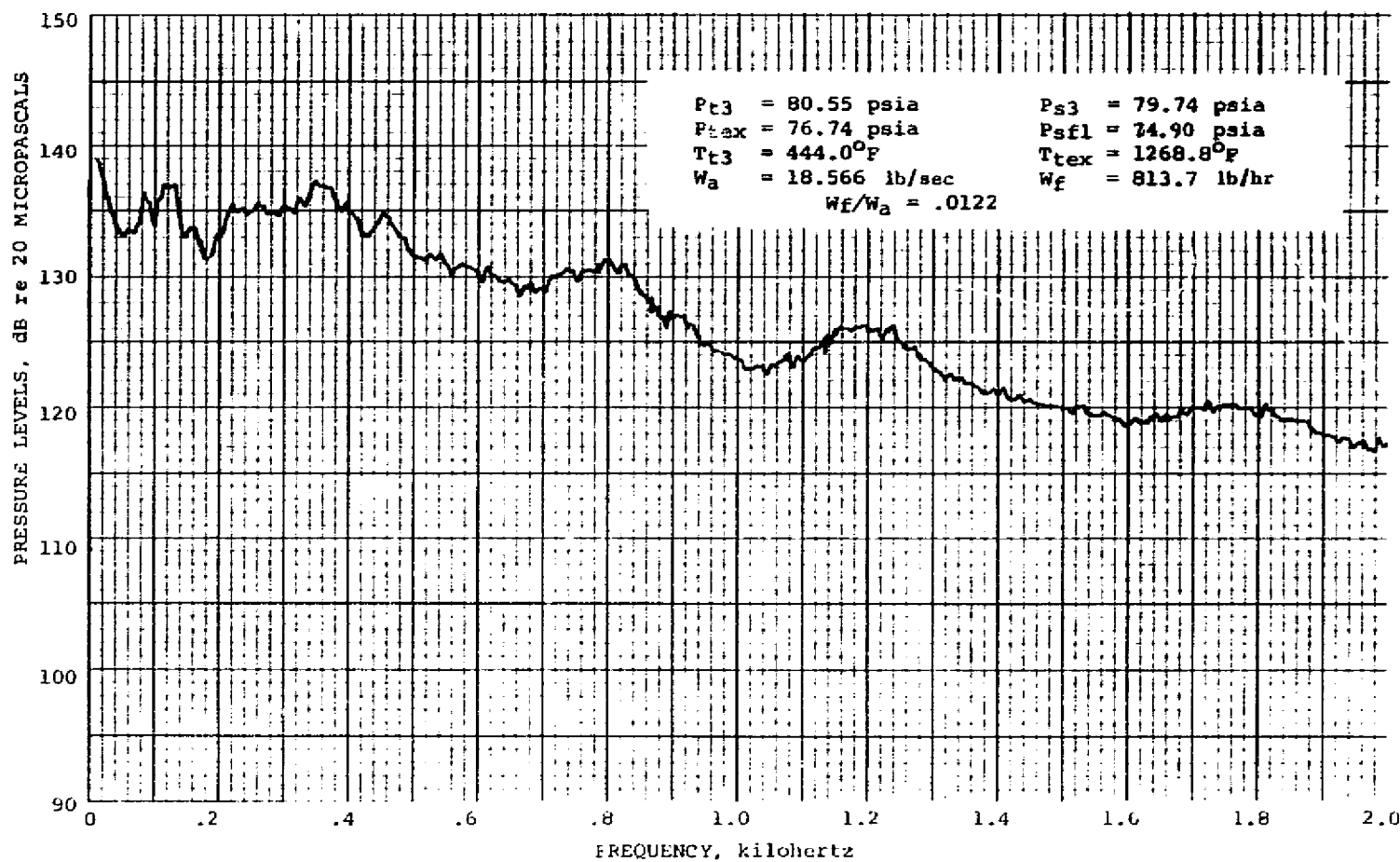
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 27



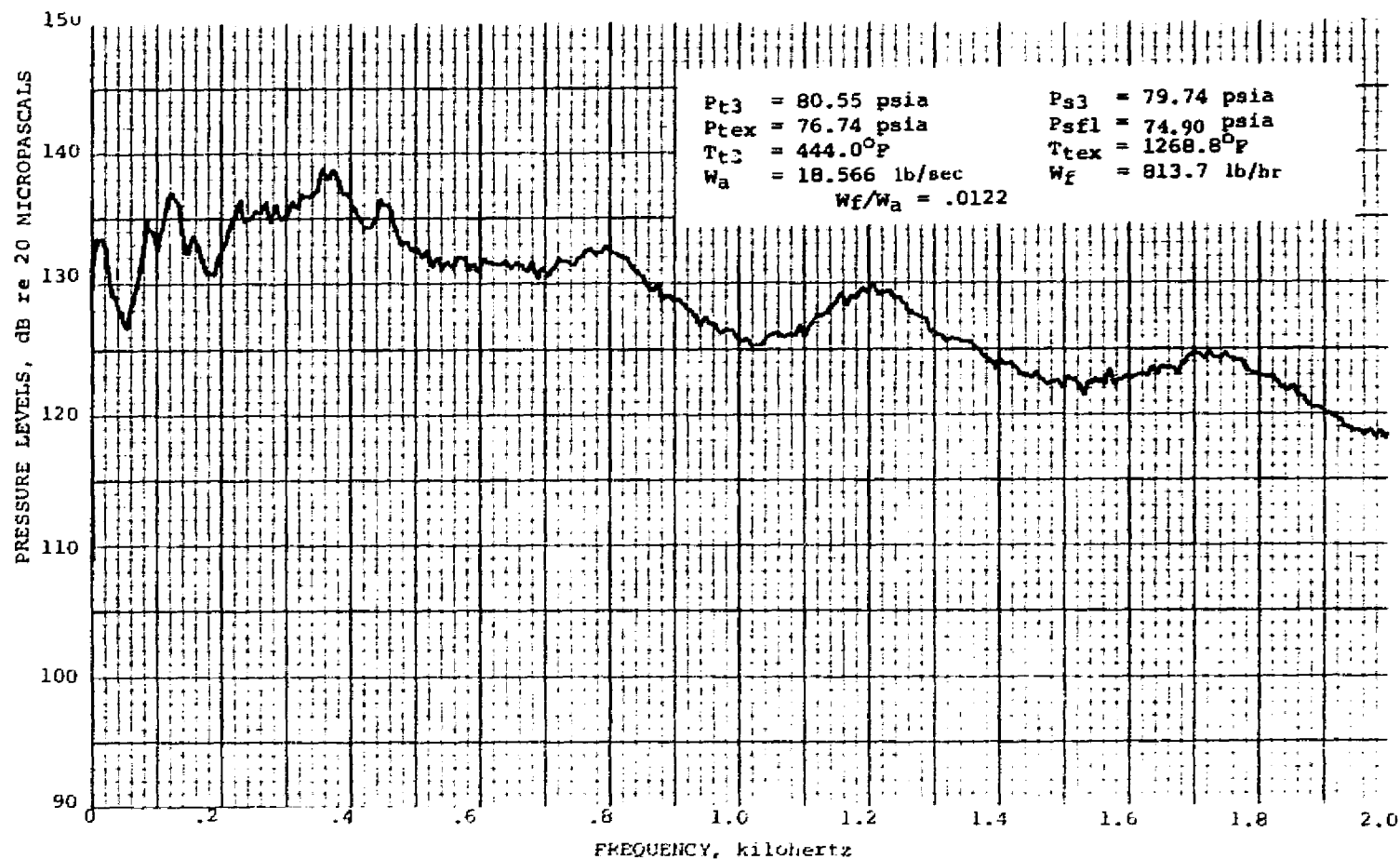
NARROW BAND SPECTRUM AT PROBE NUMBER 2 DURING RUN POINT NUMBER 27



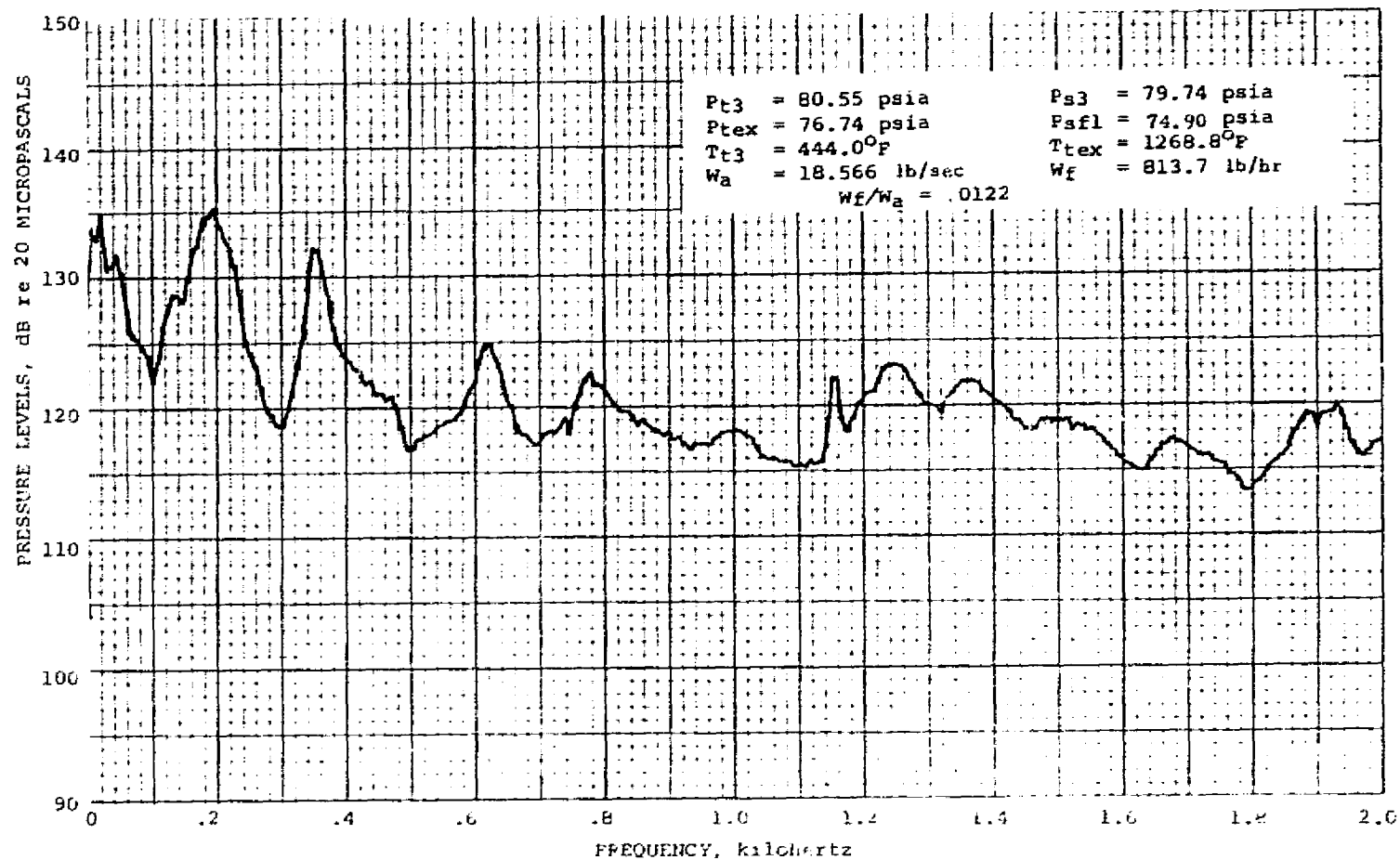
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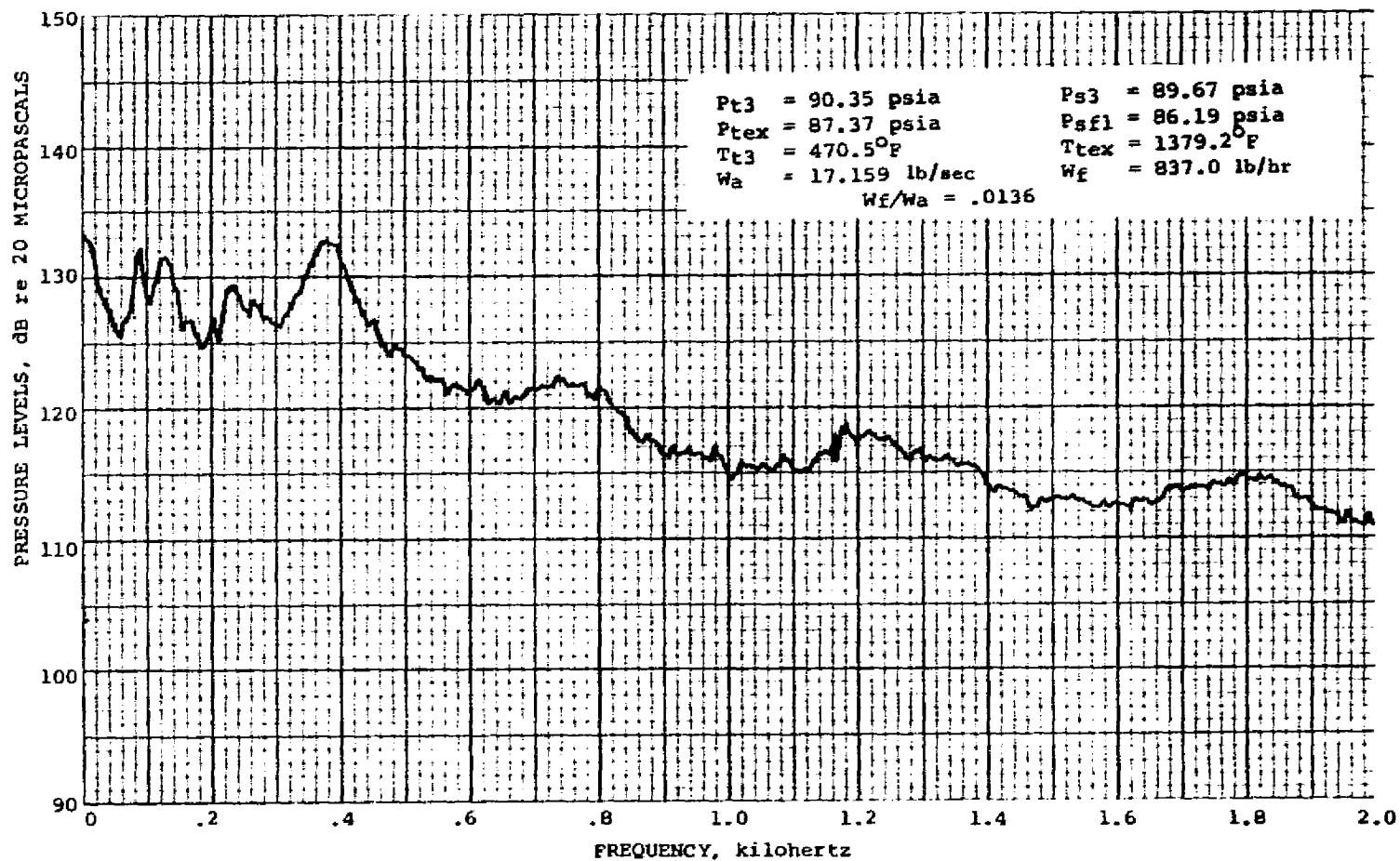
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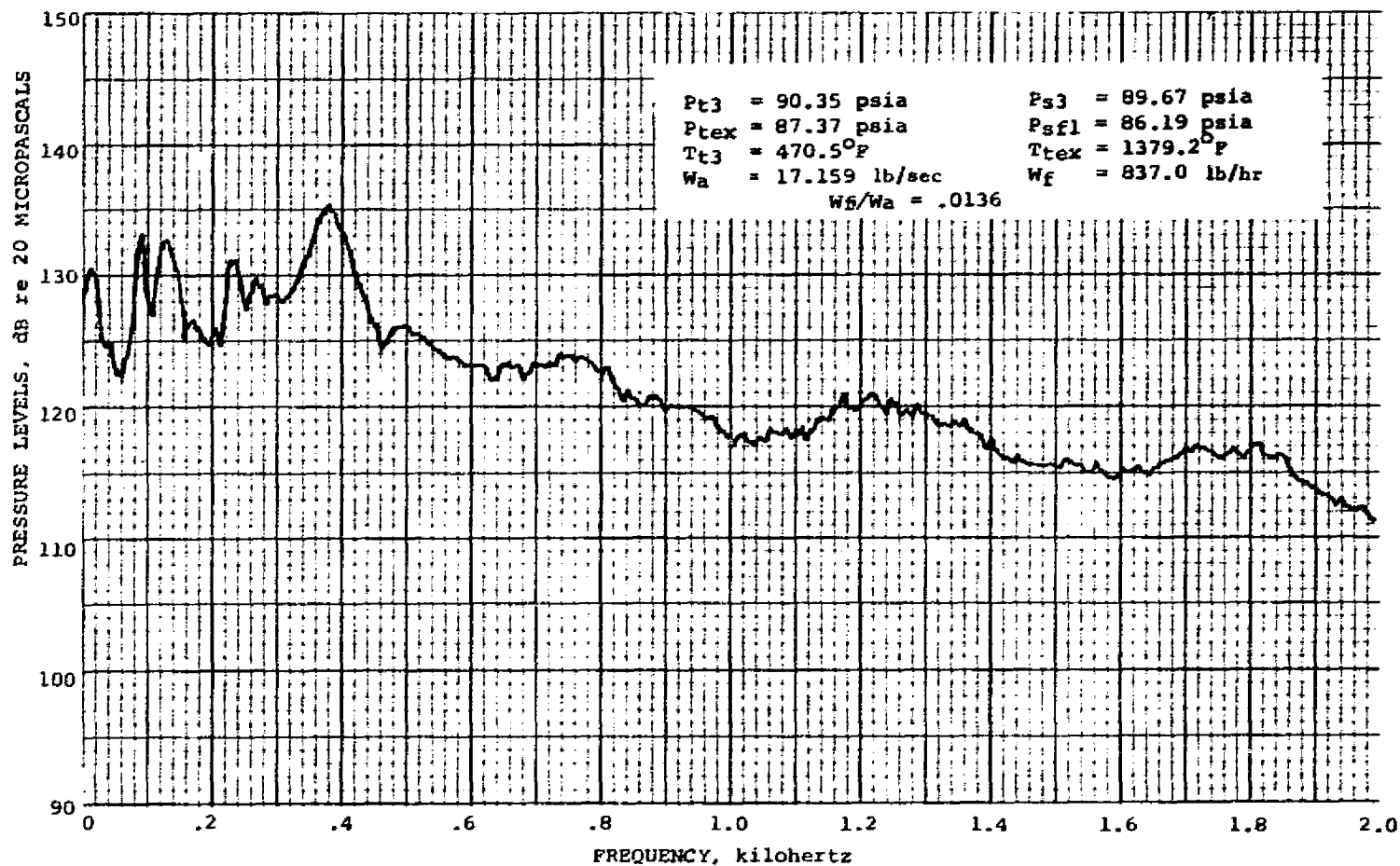
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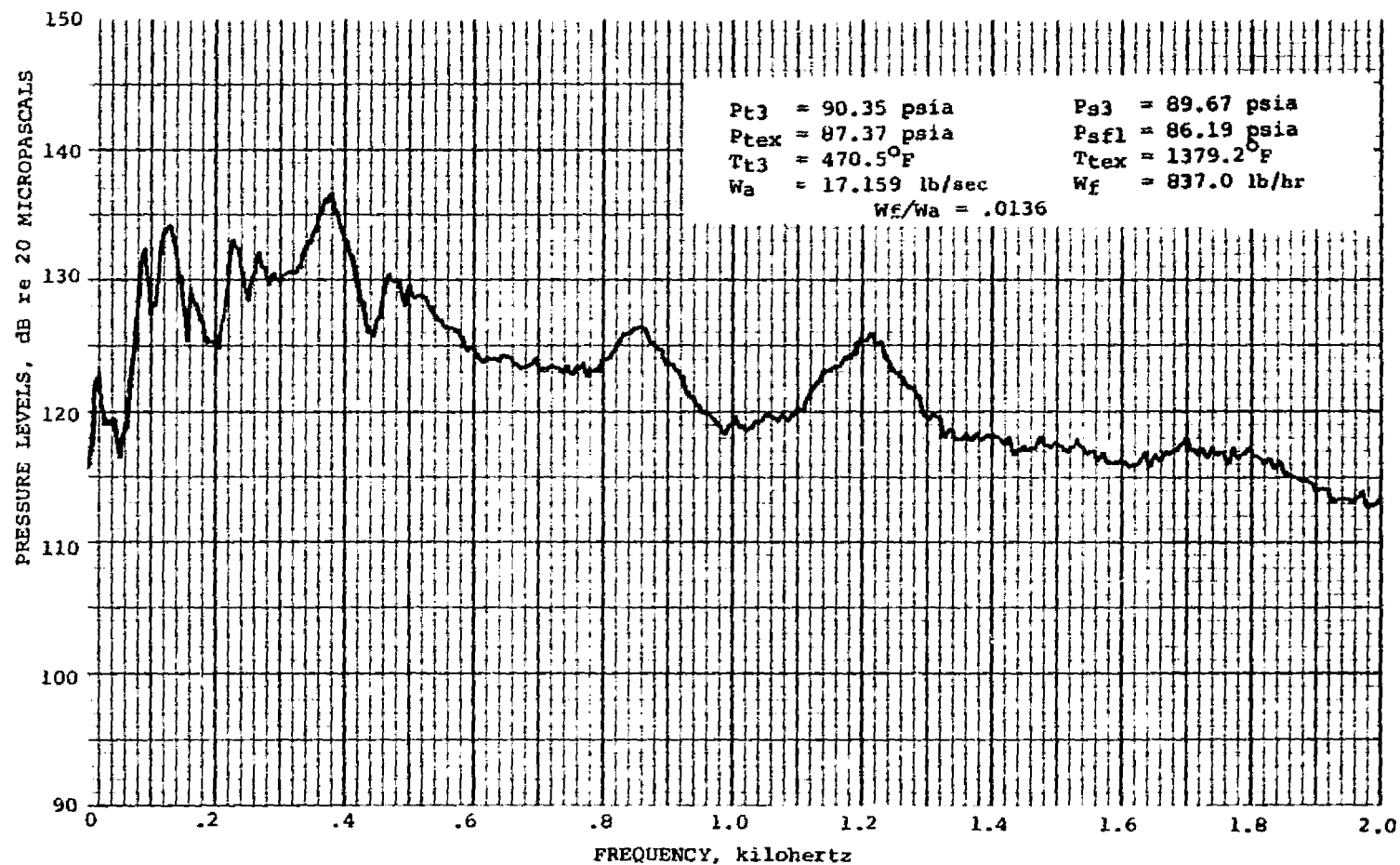
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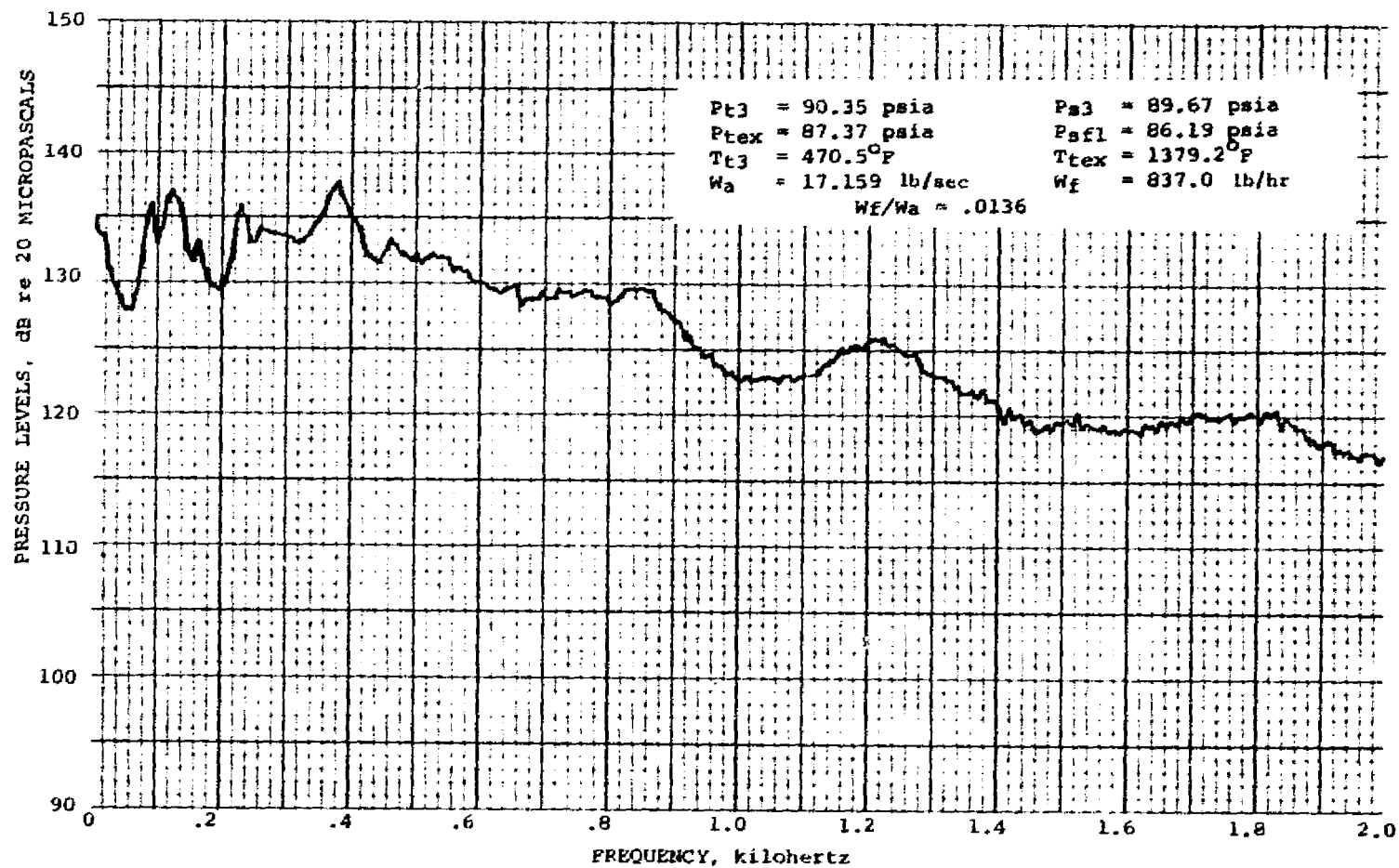
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 25



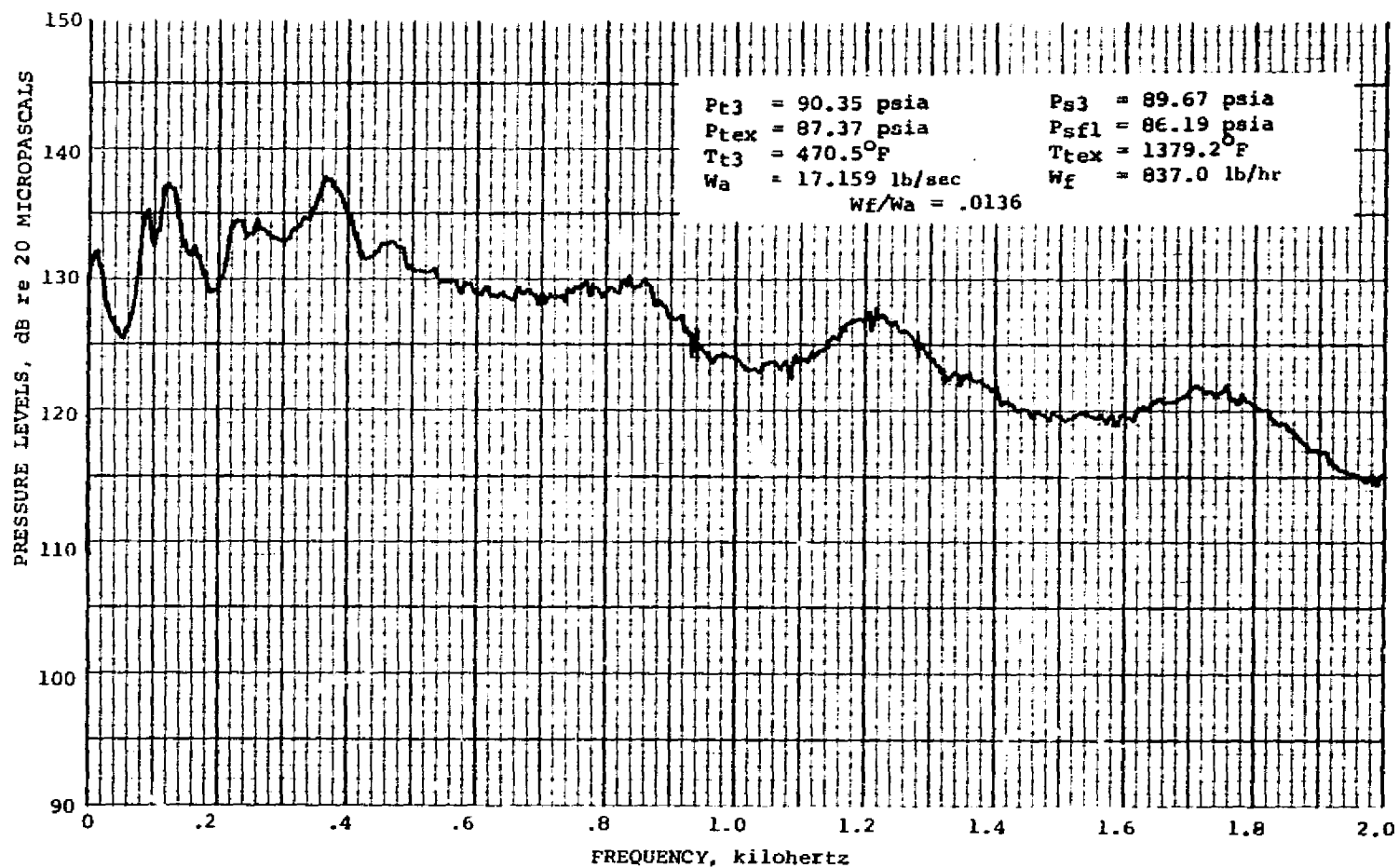
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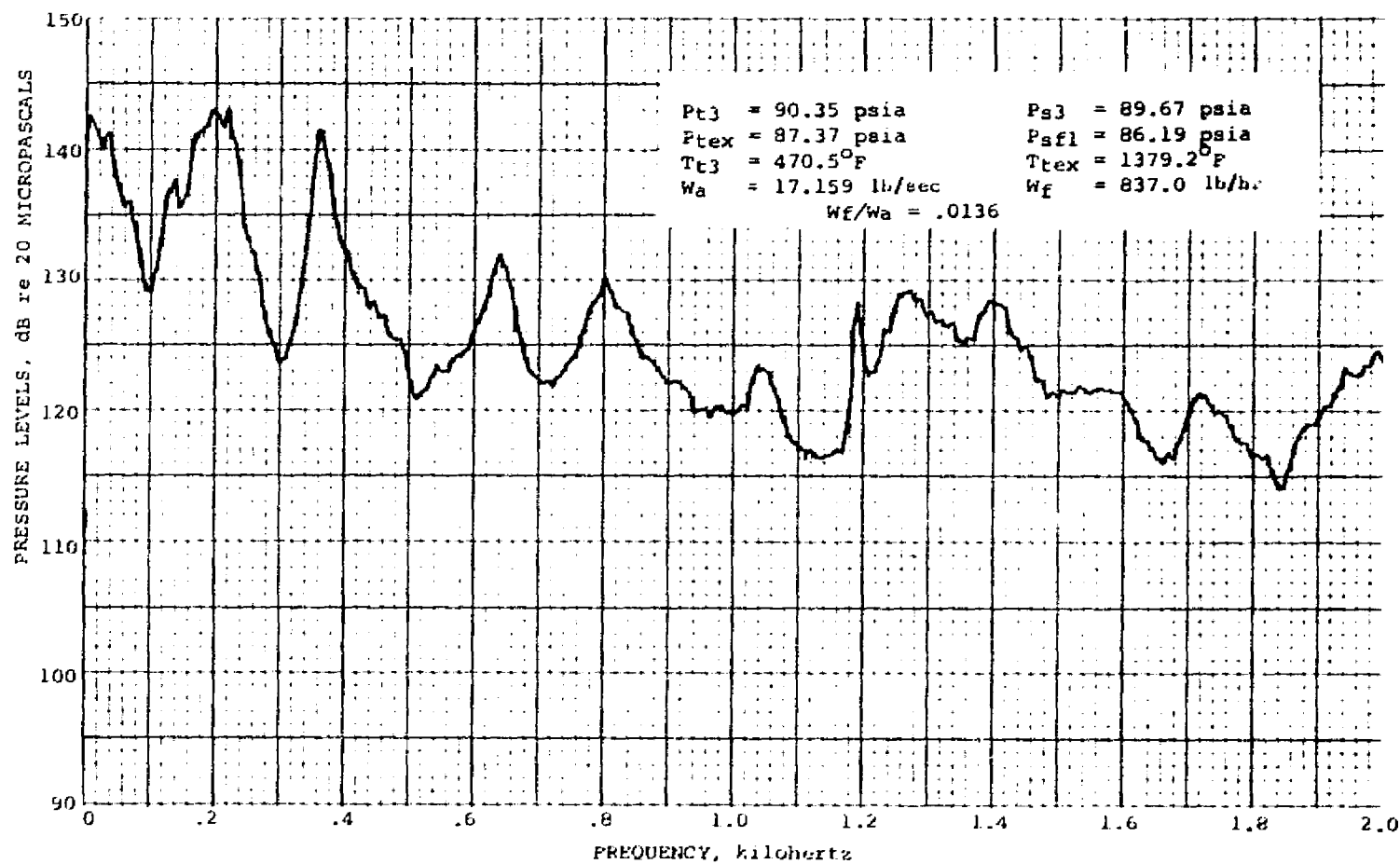
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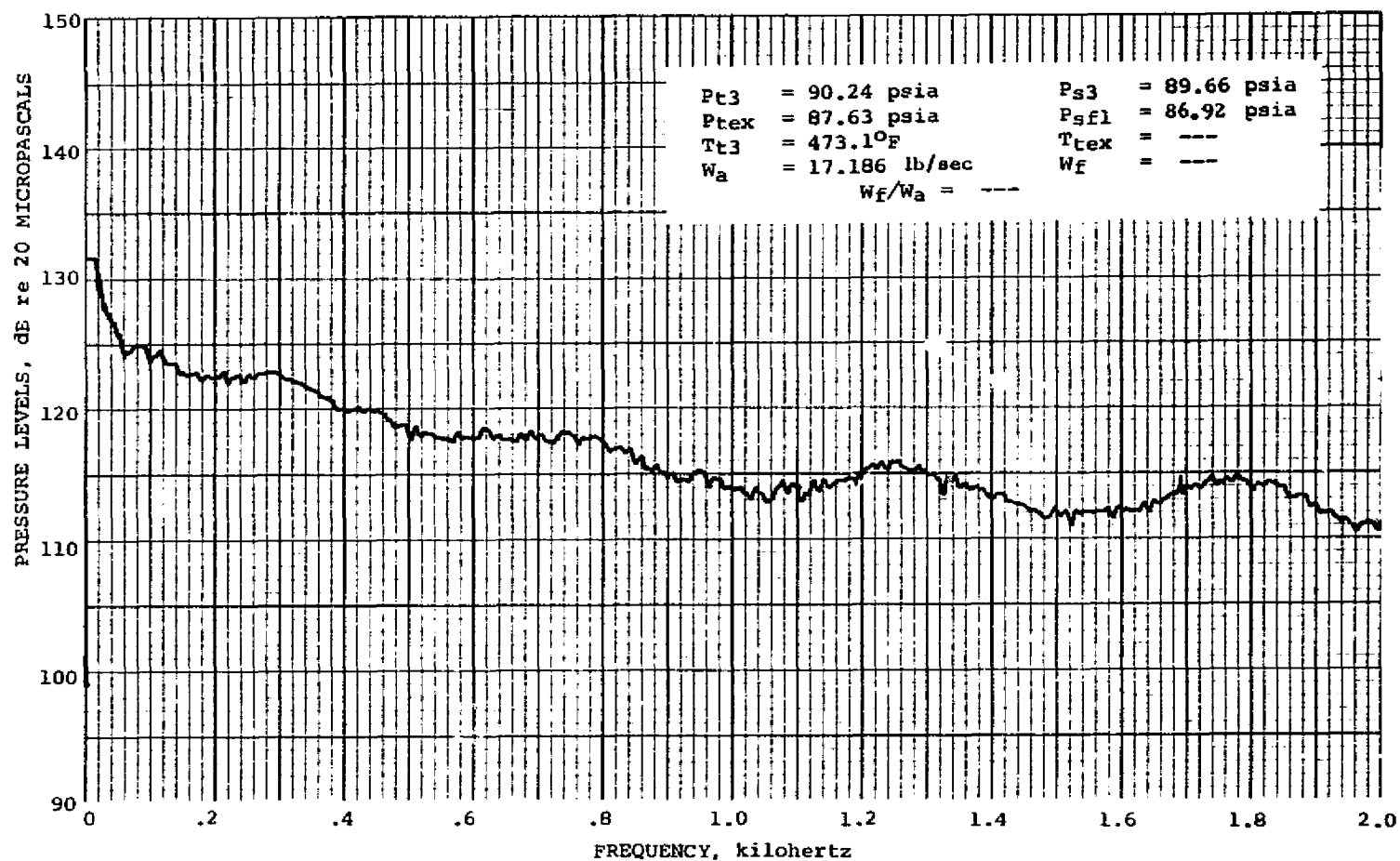
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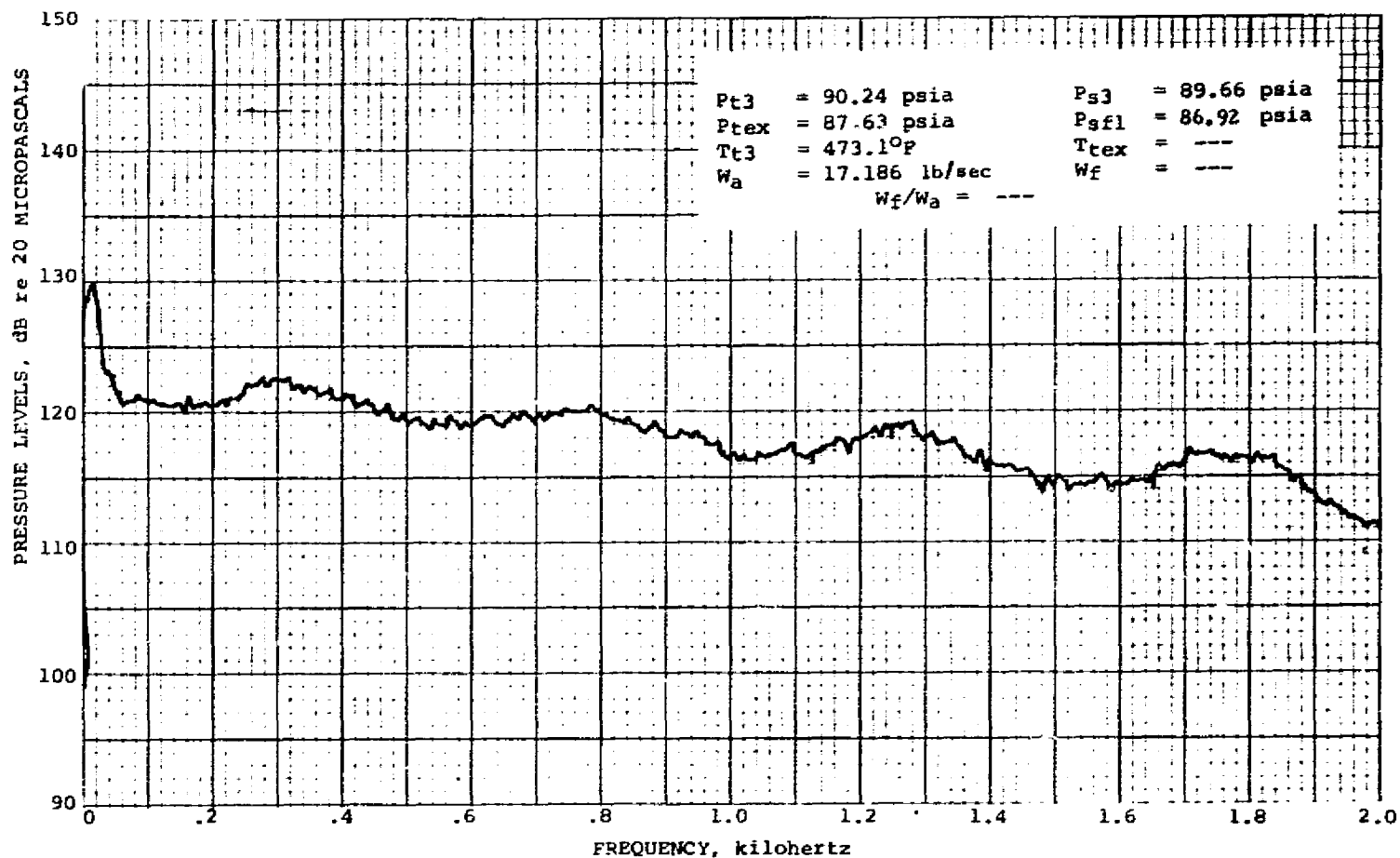
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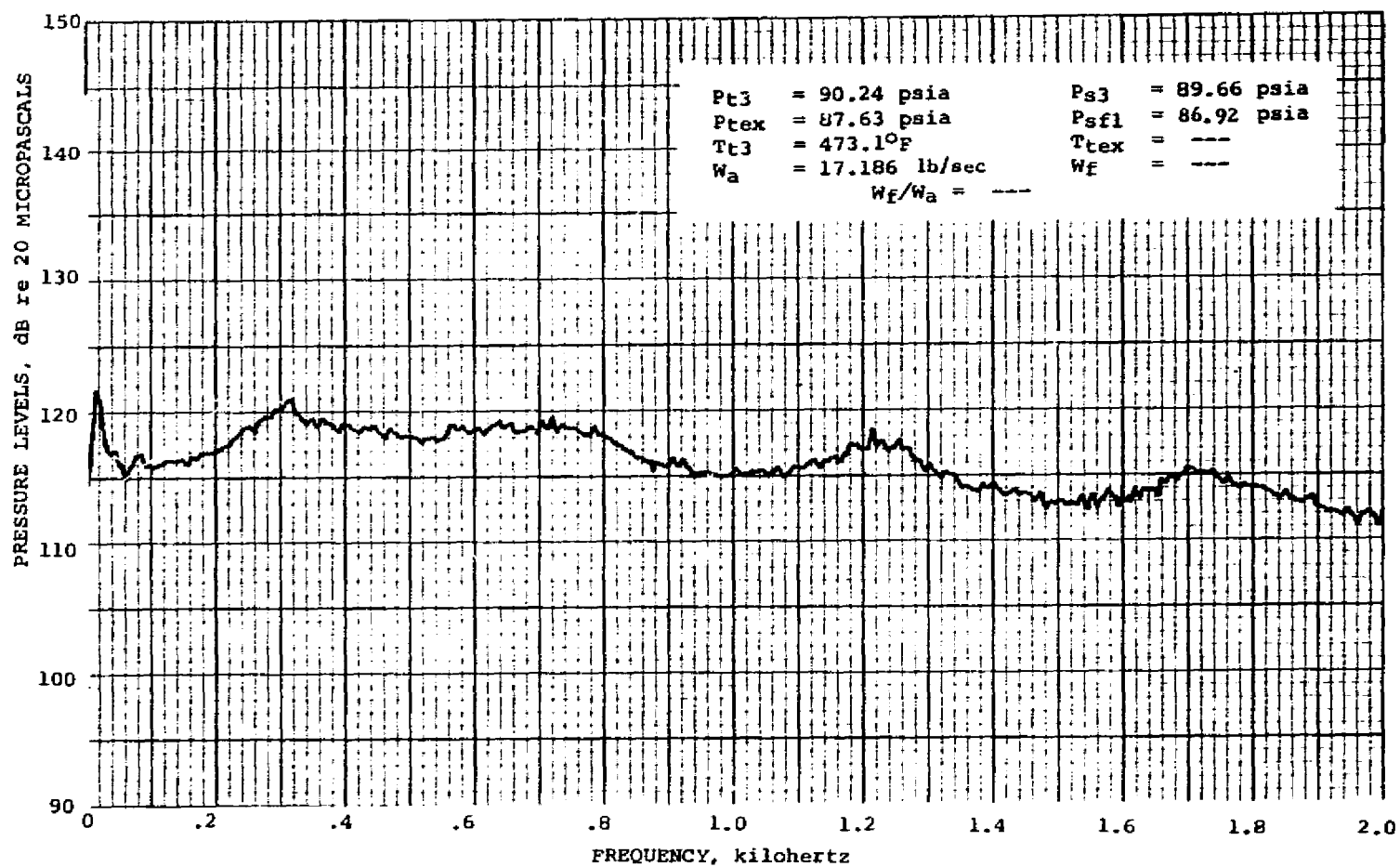
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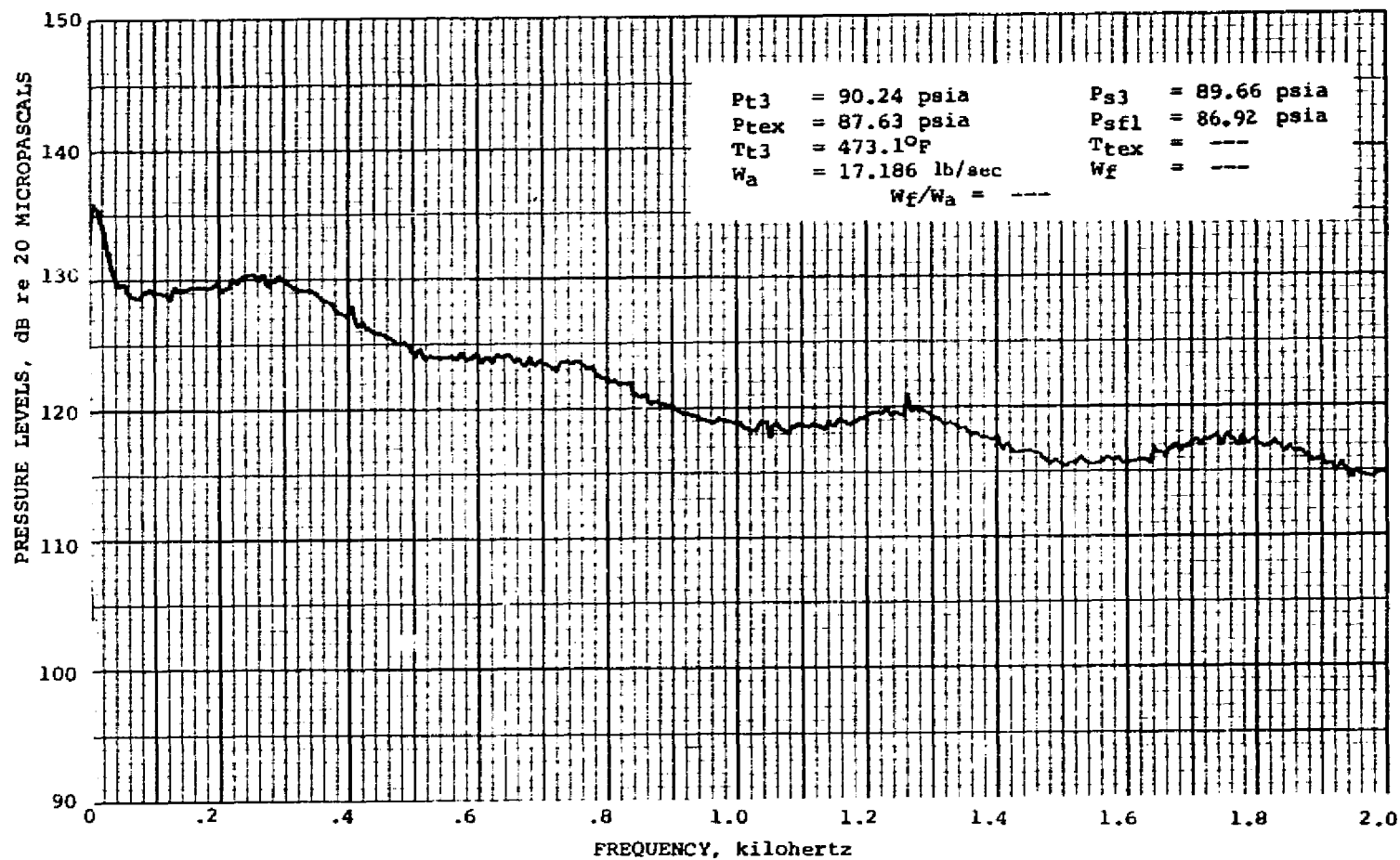
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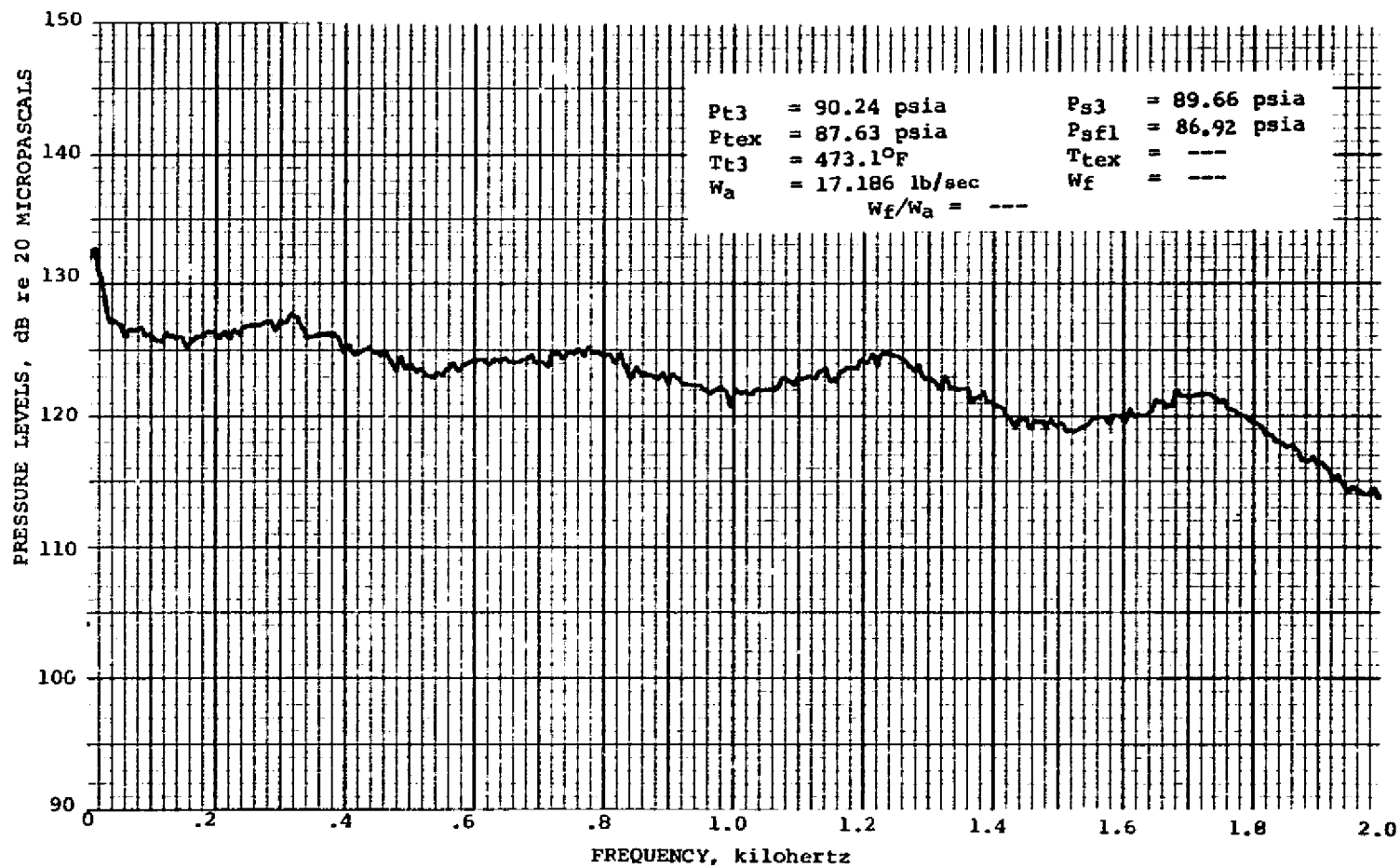
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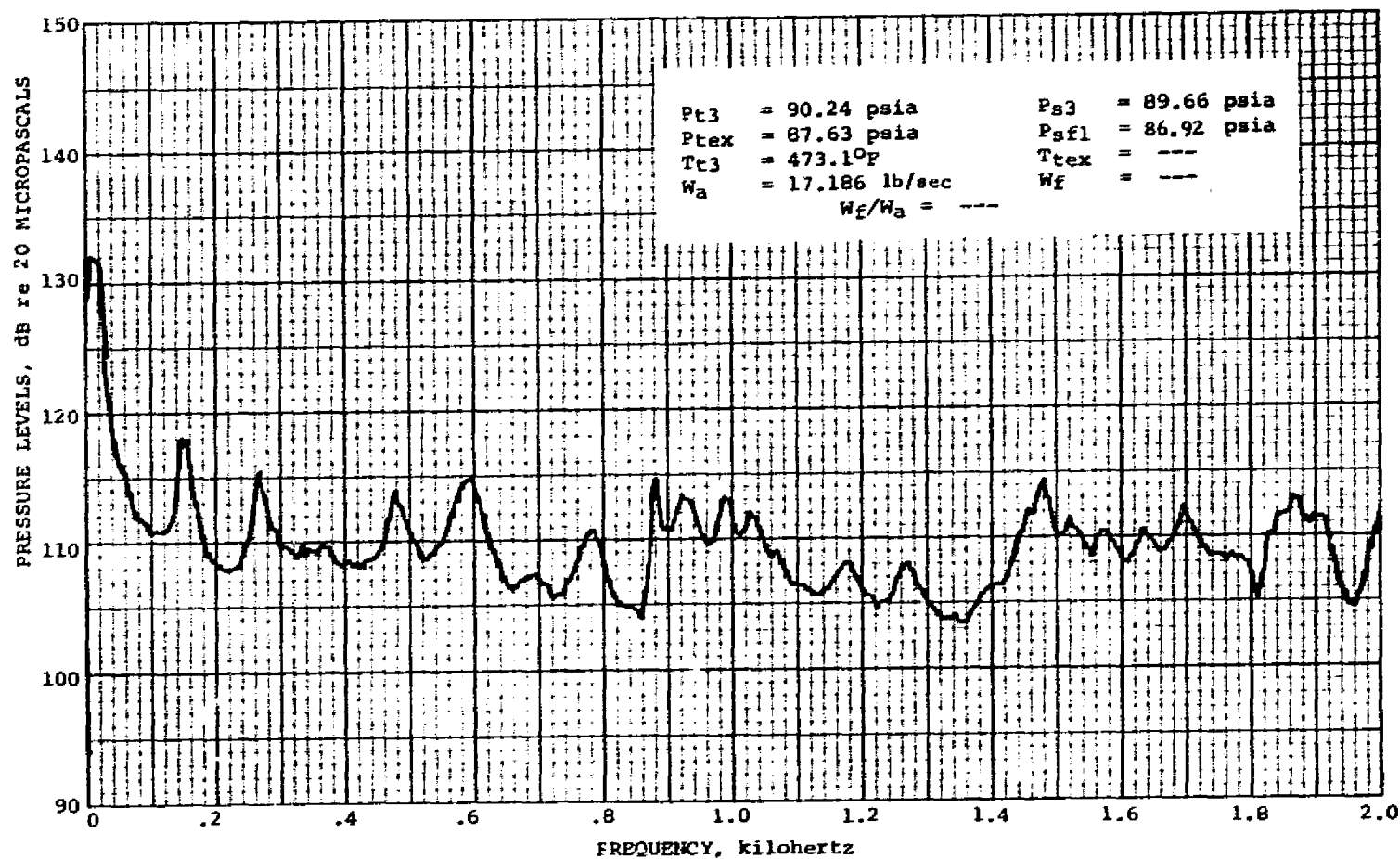
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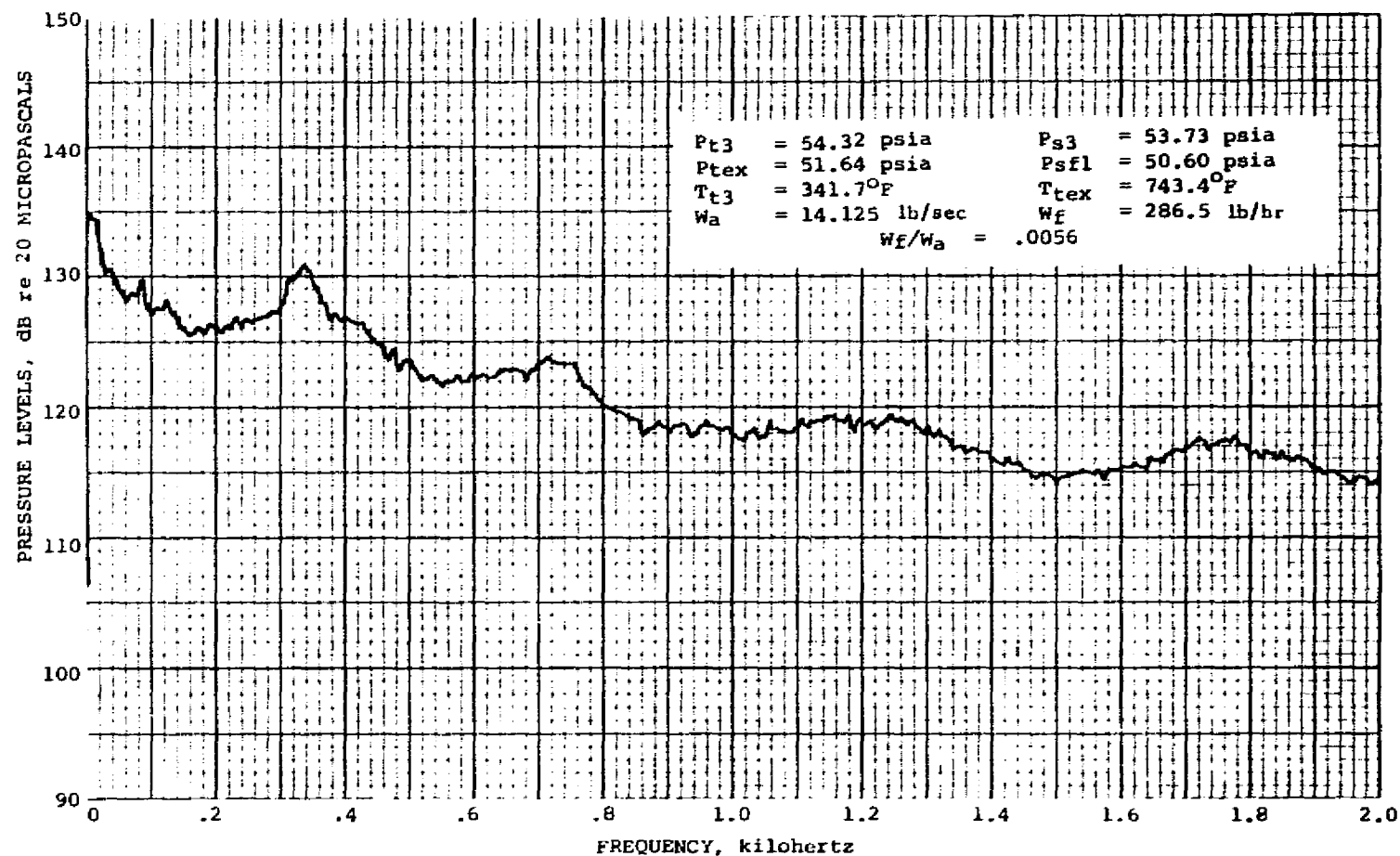
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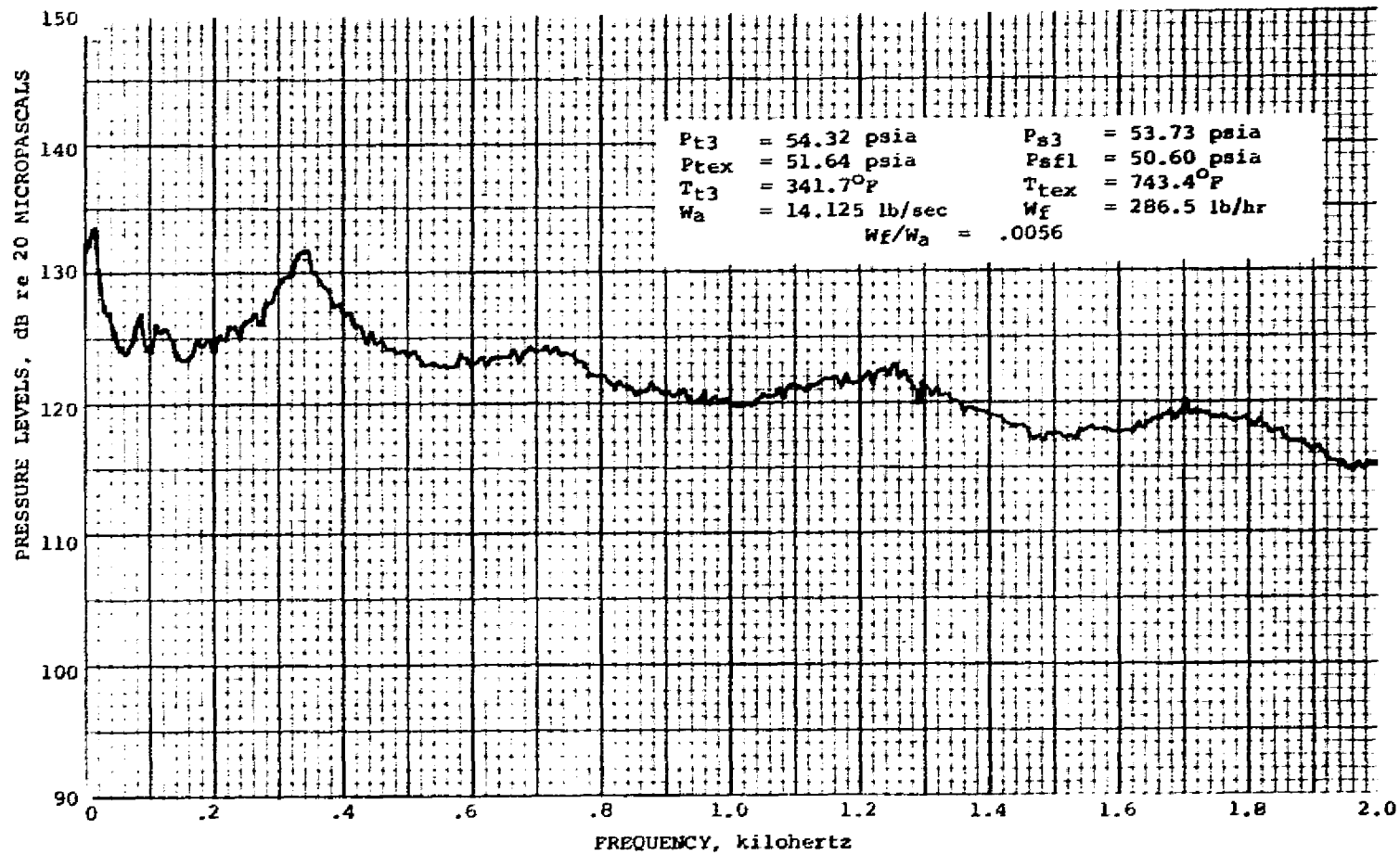
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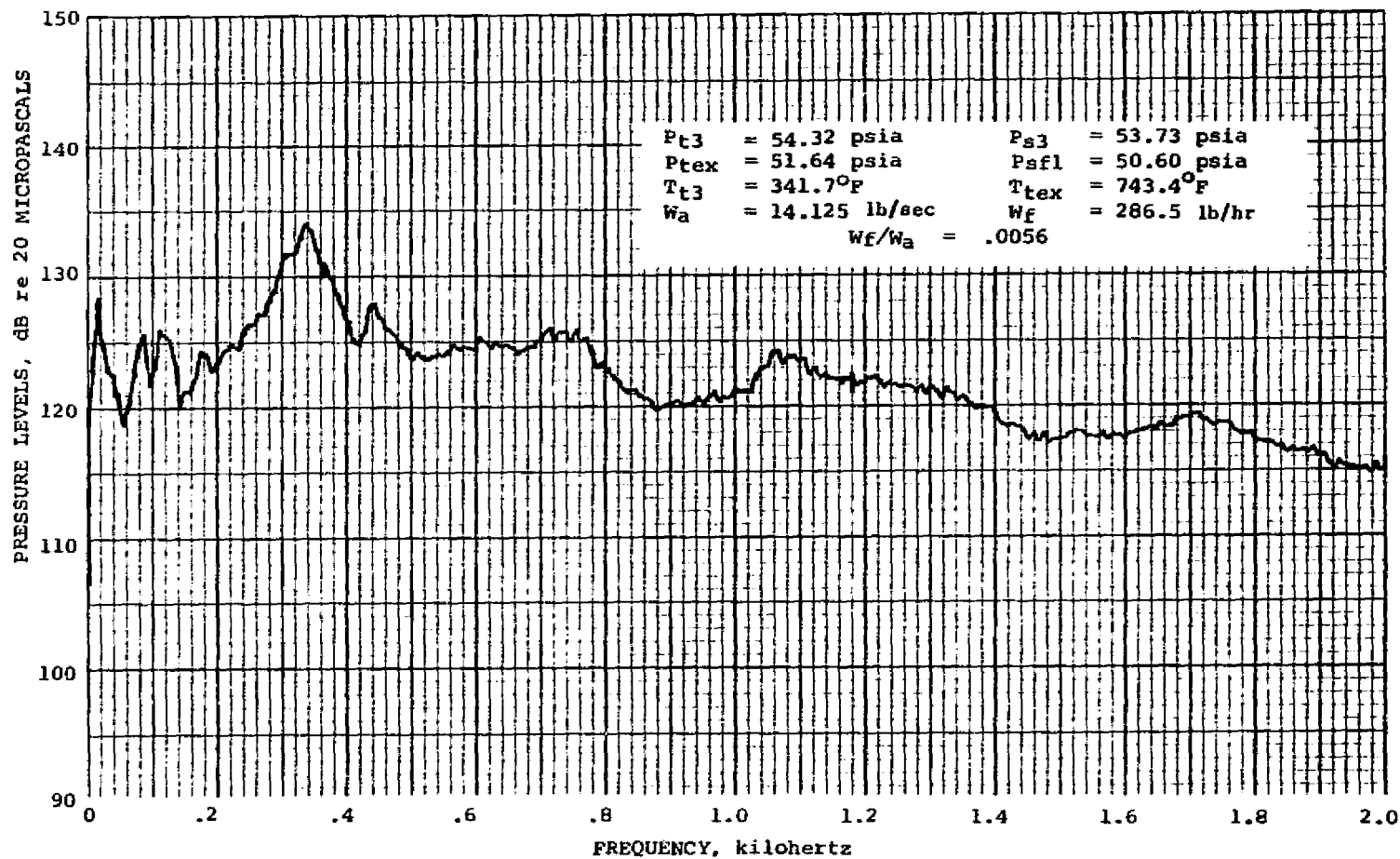
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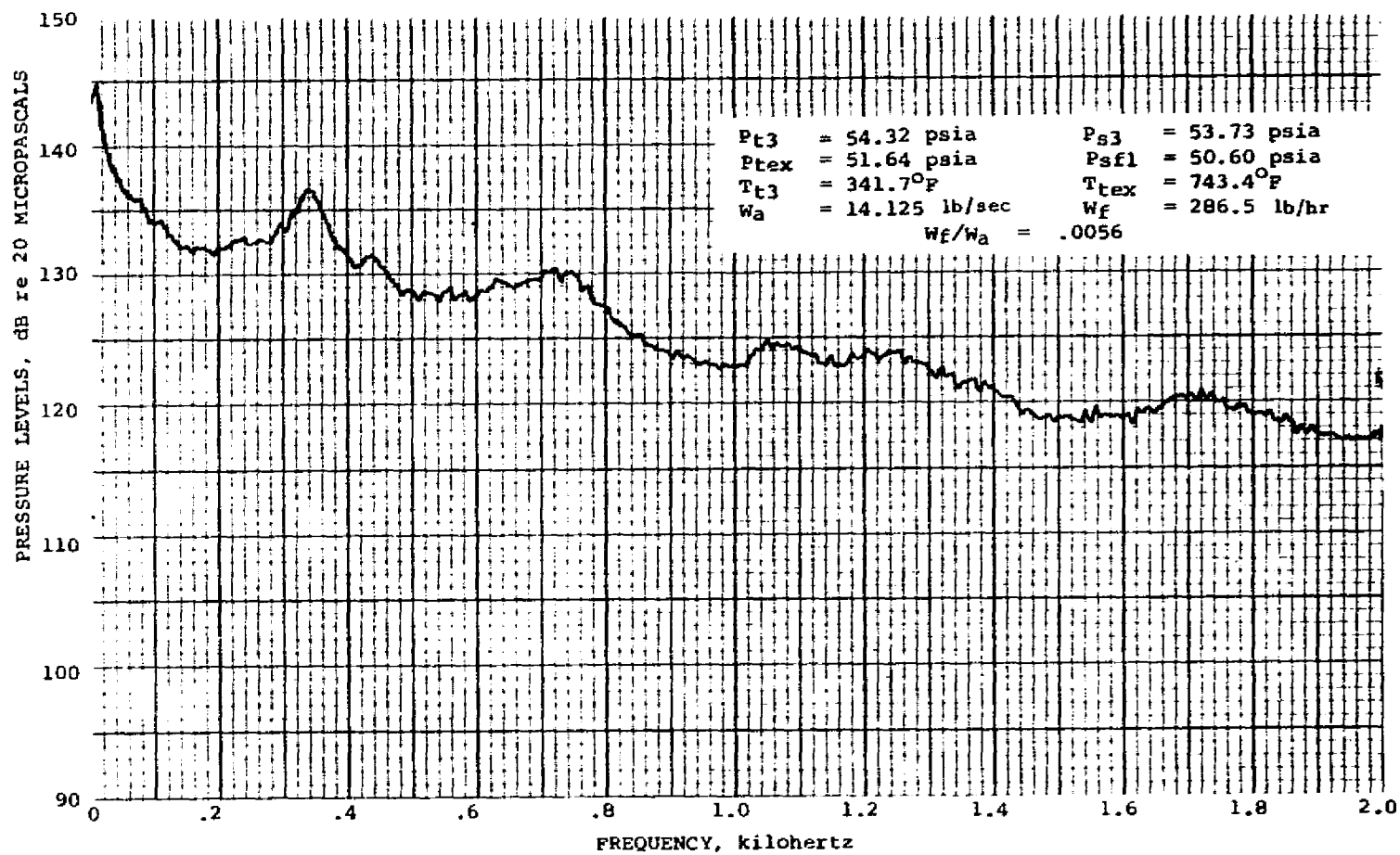
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 12



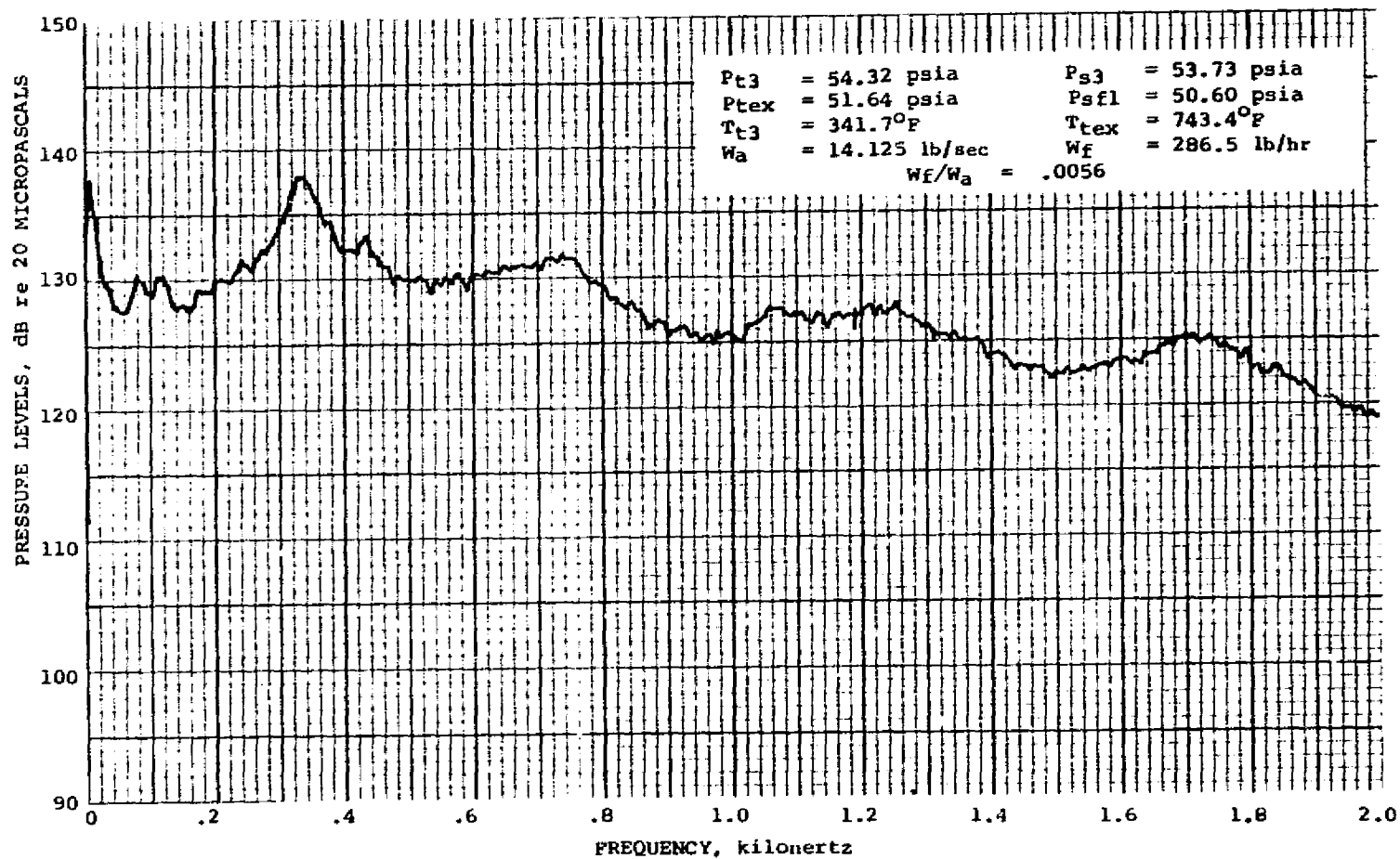
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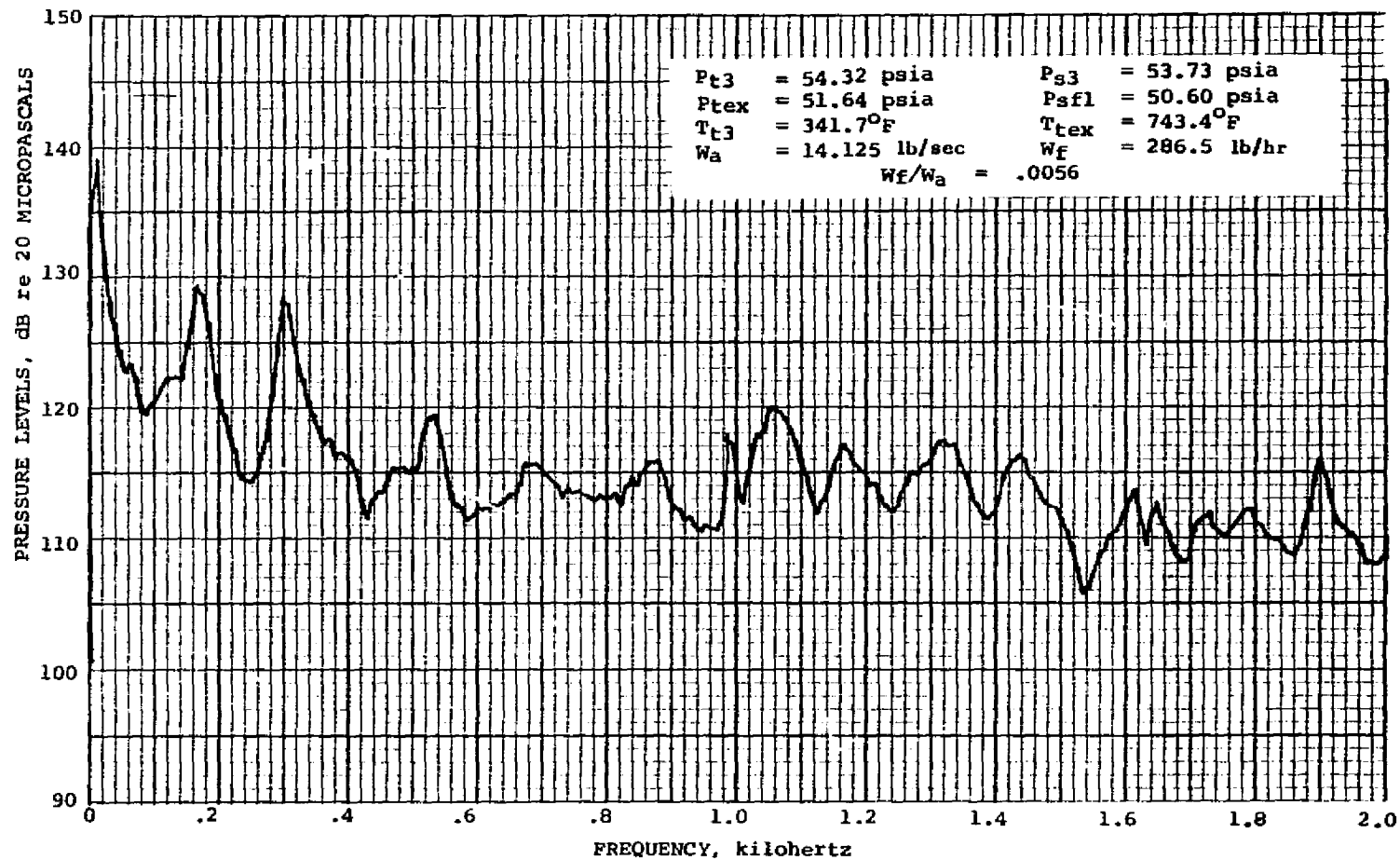
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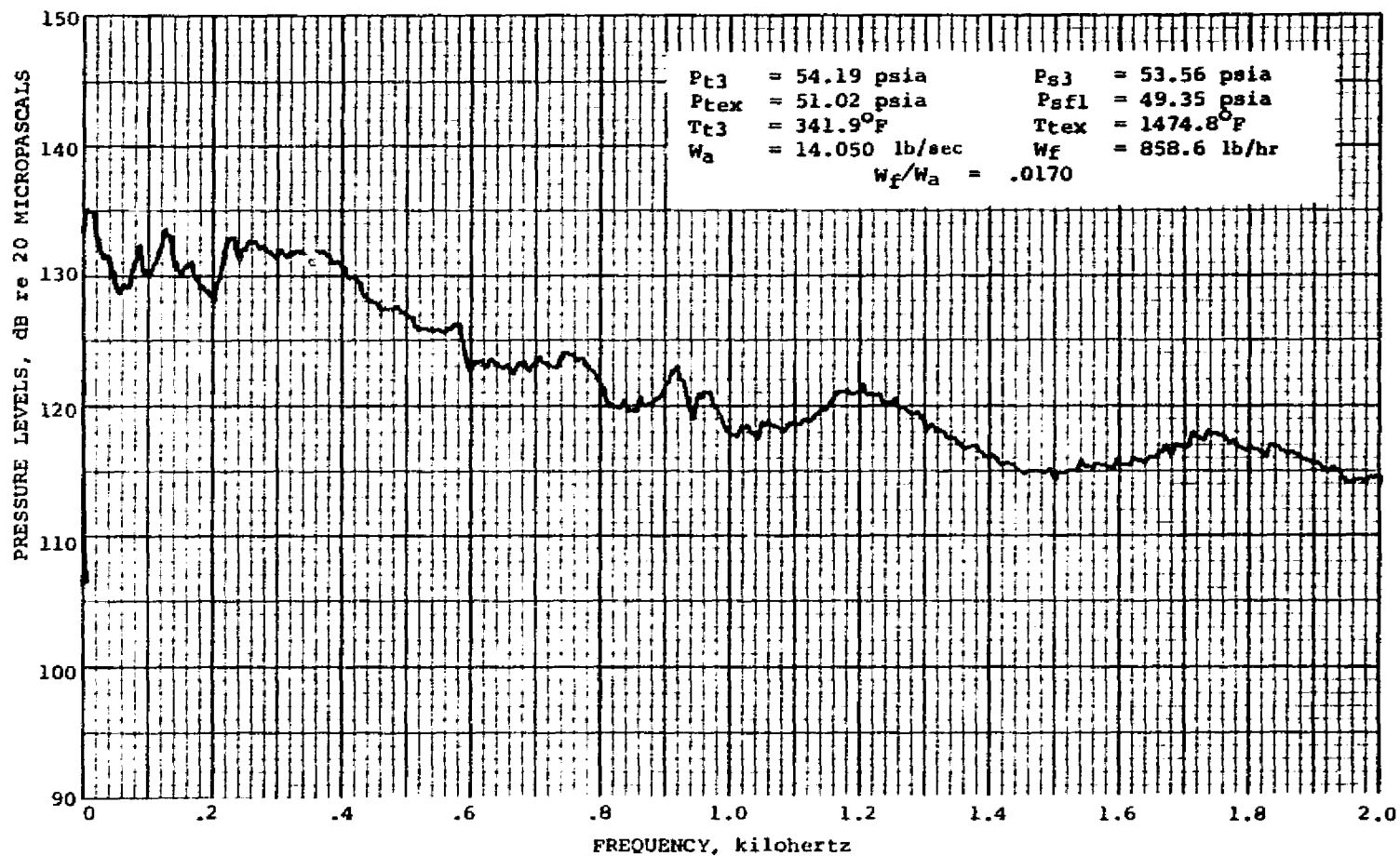
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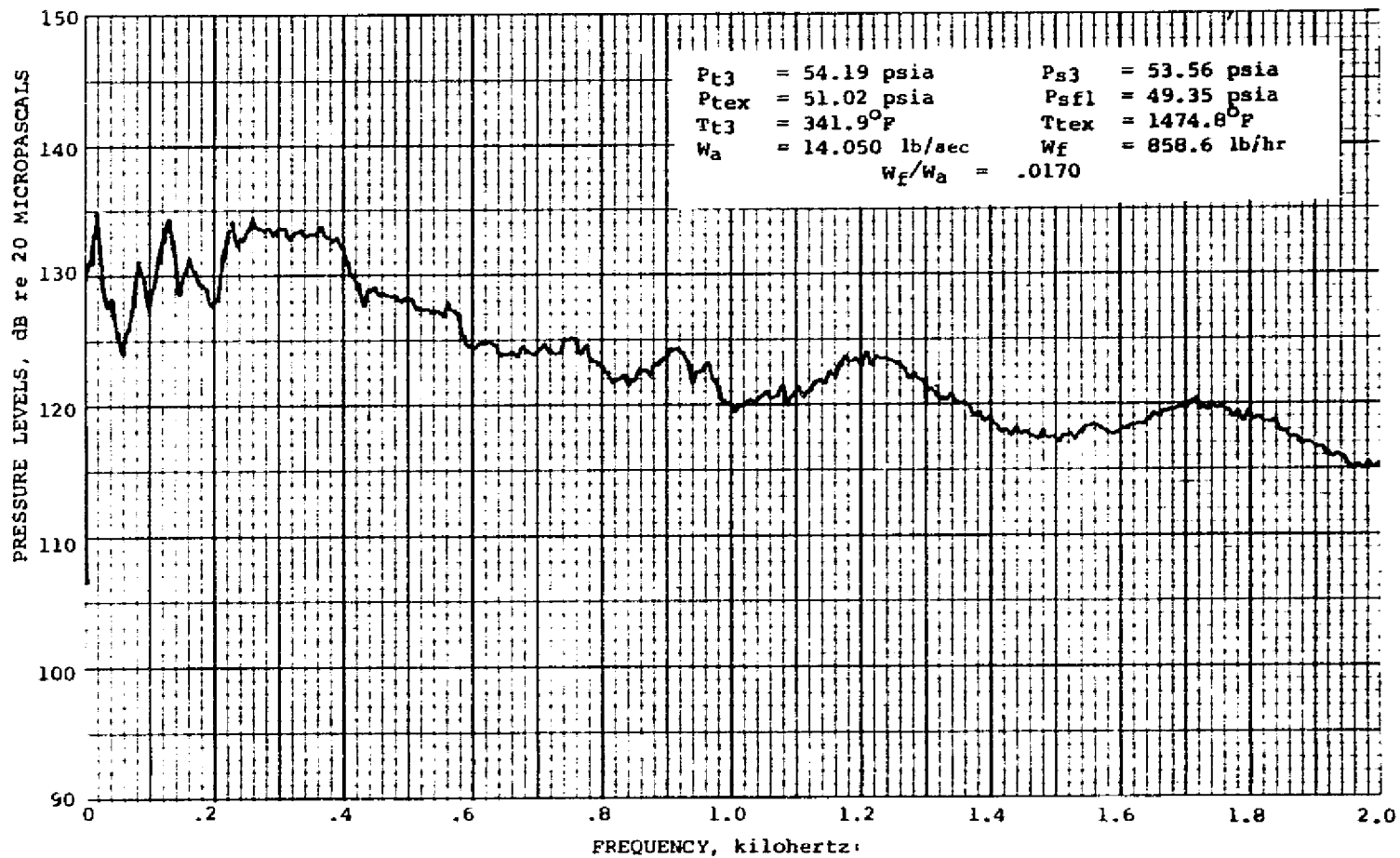
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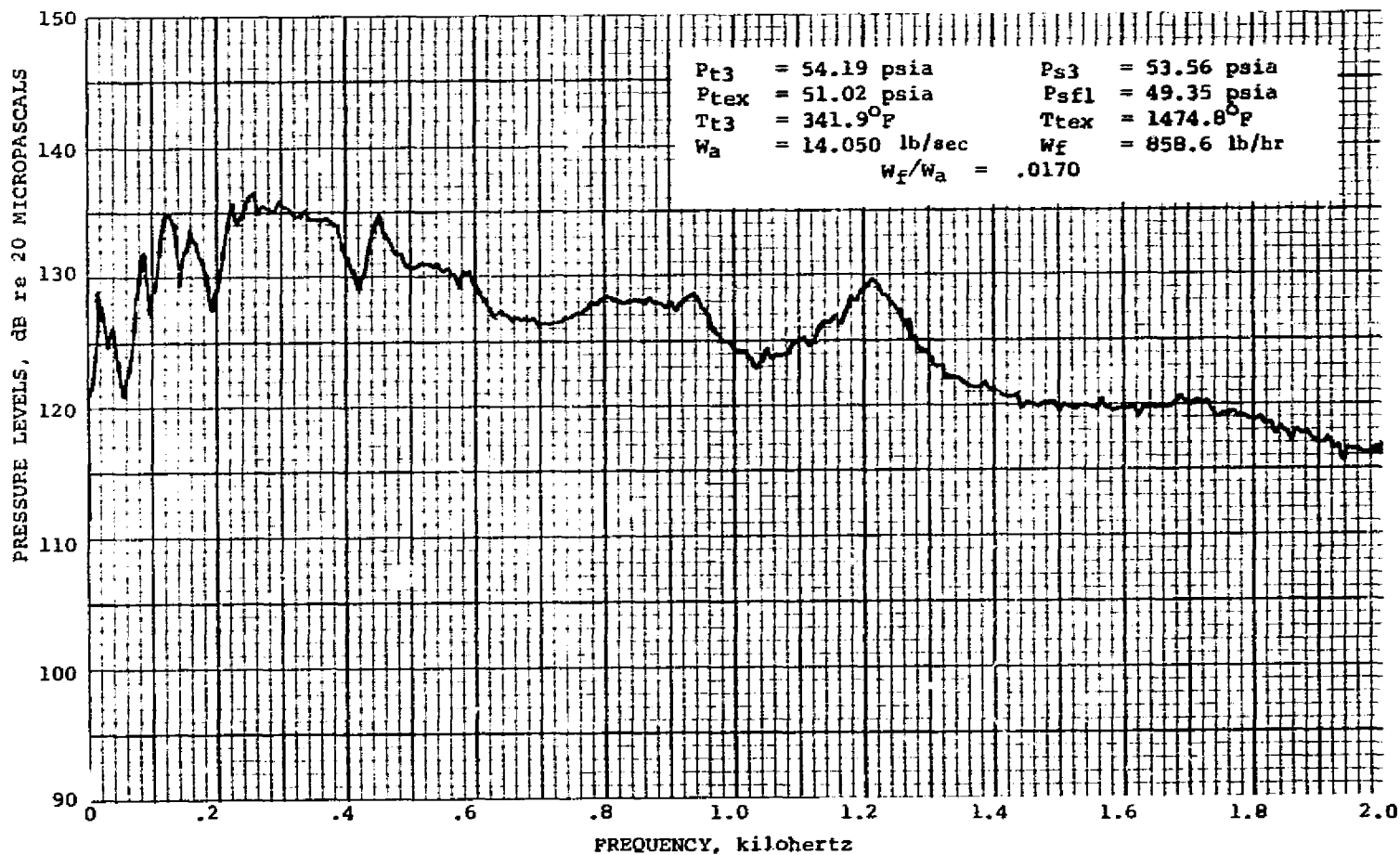
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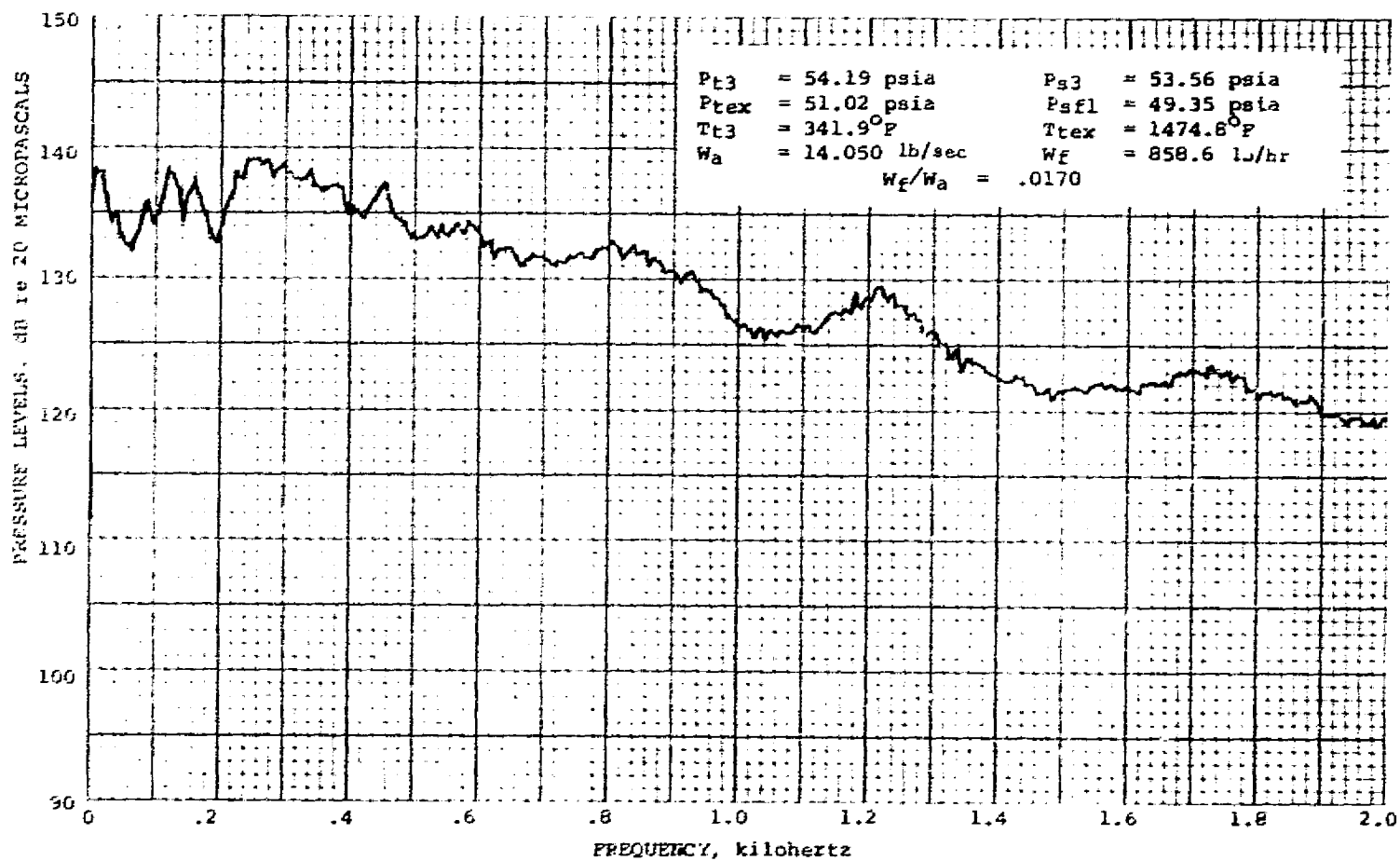
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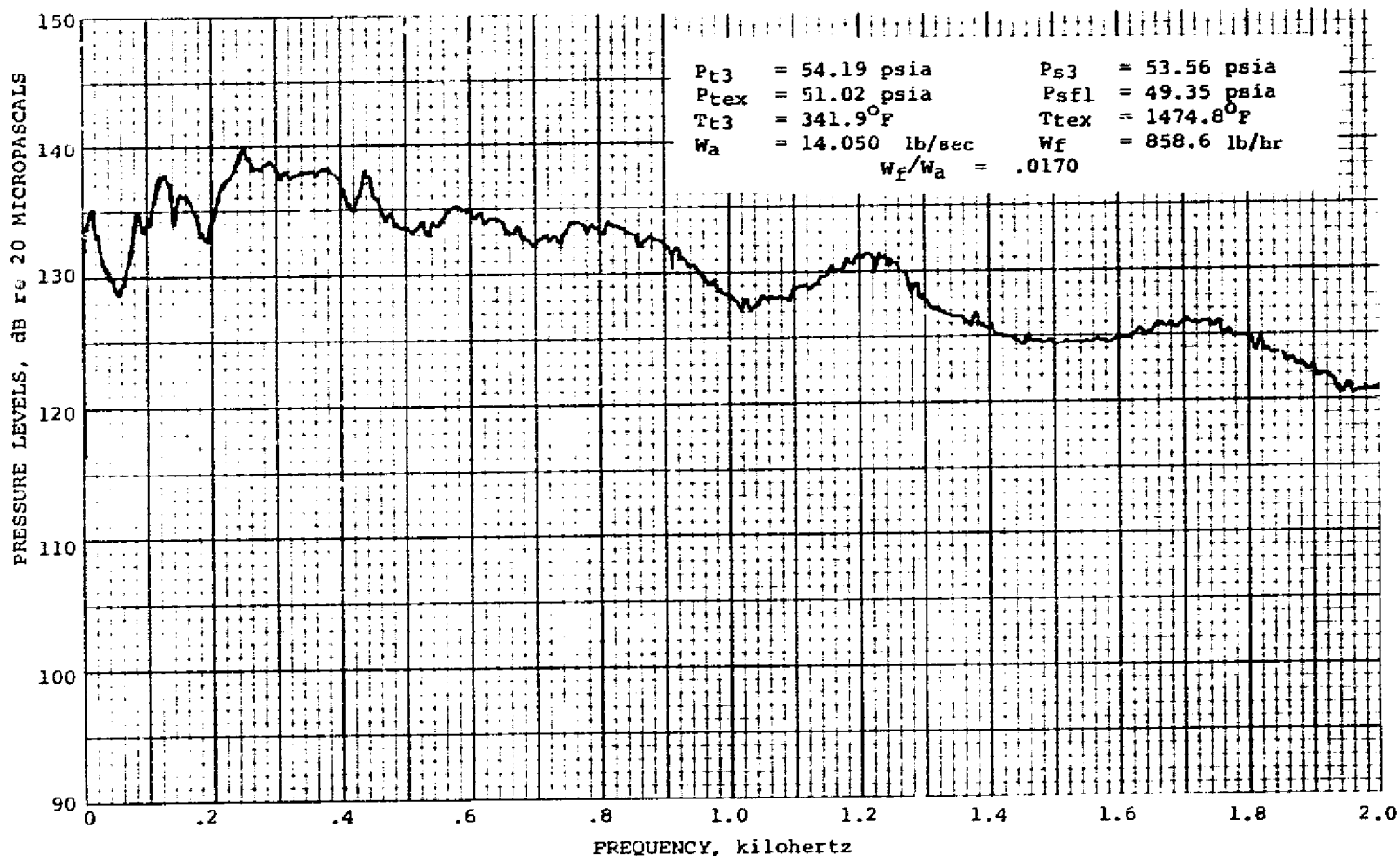
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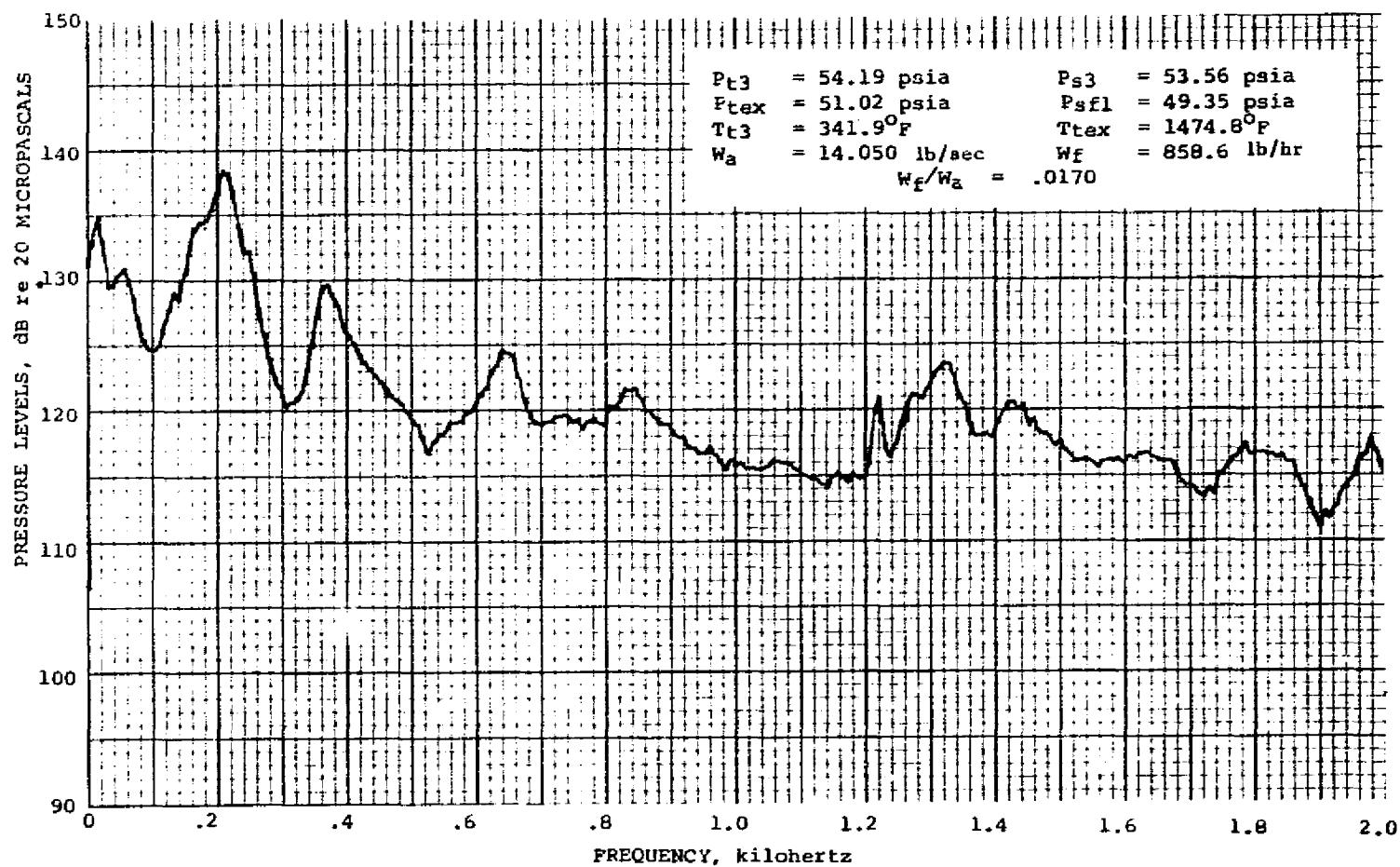
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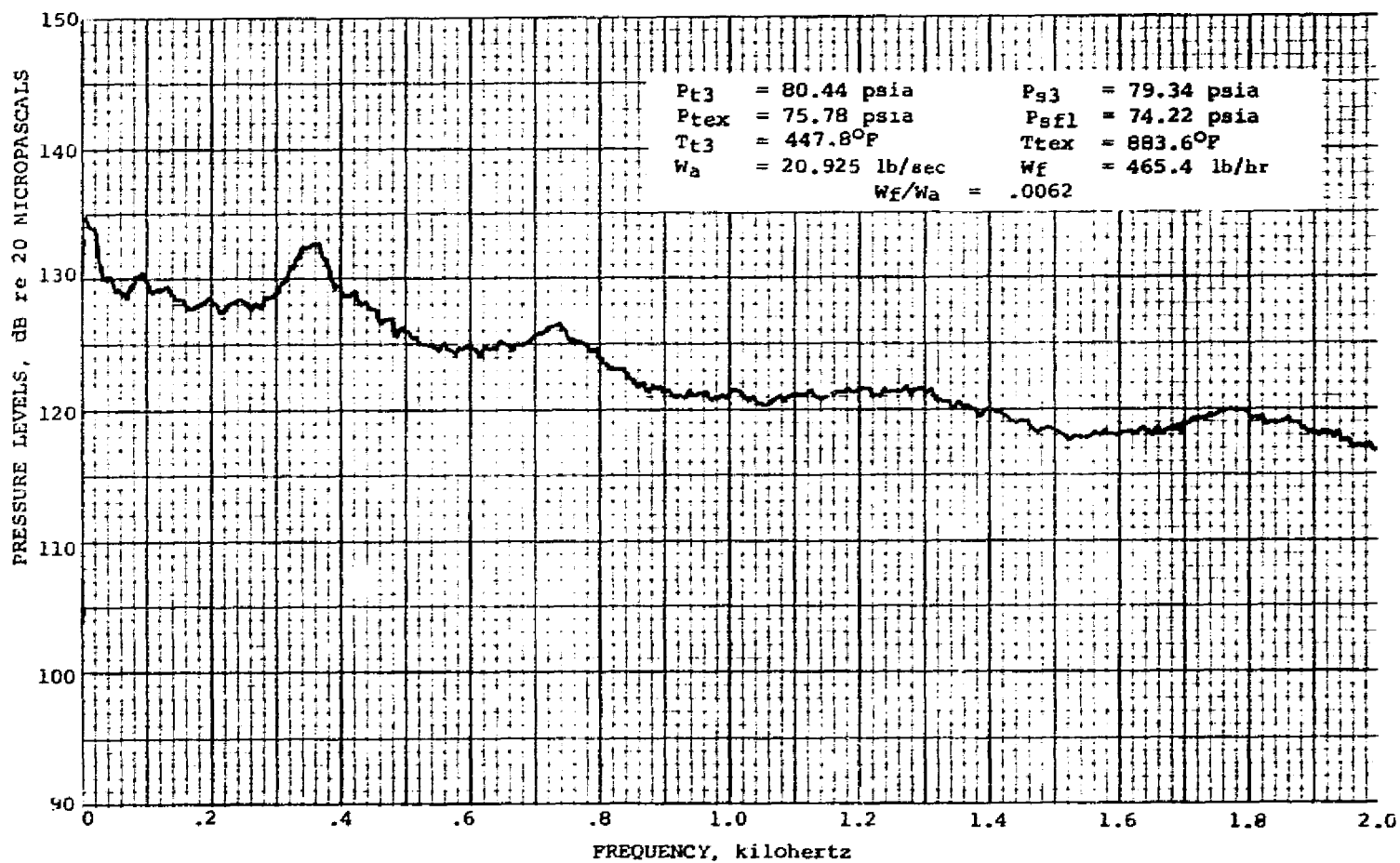
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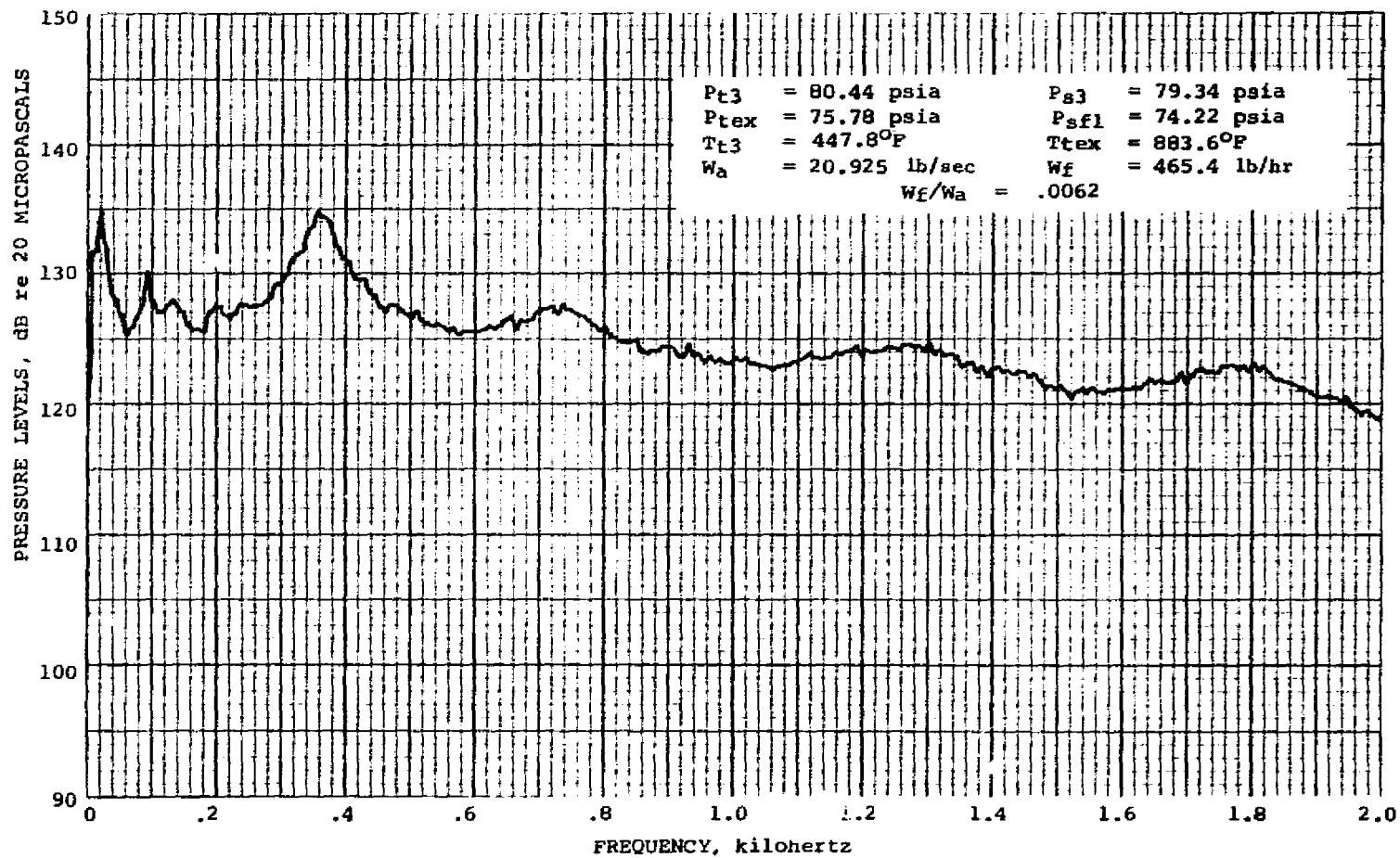
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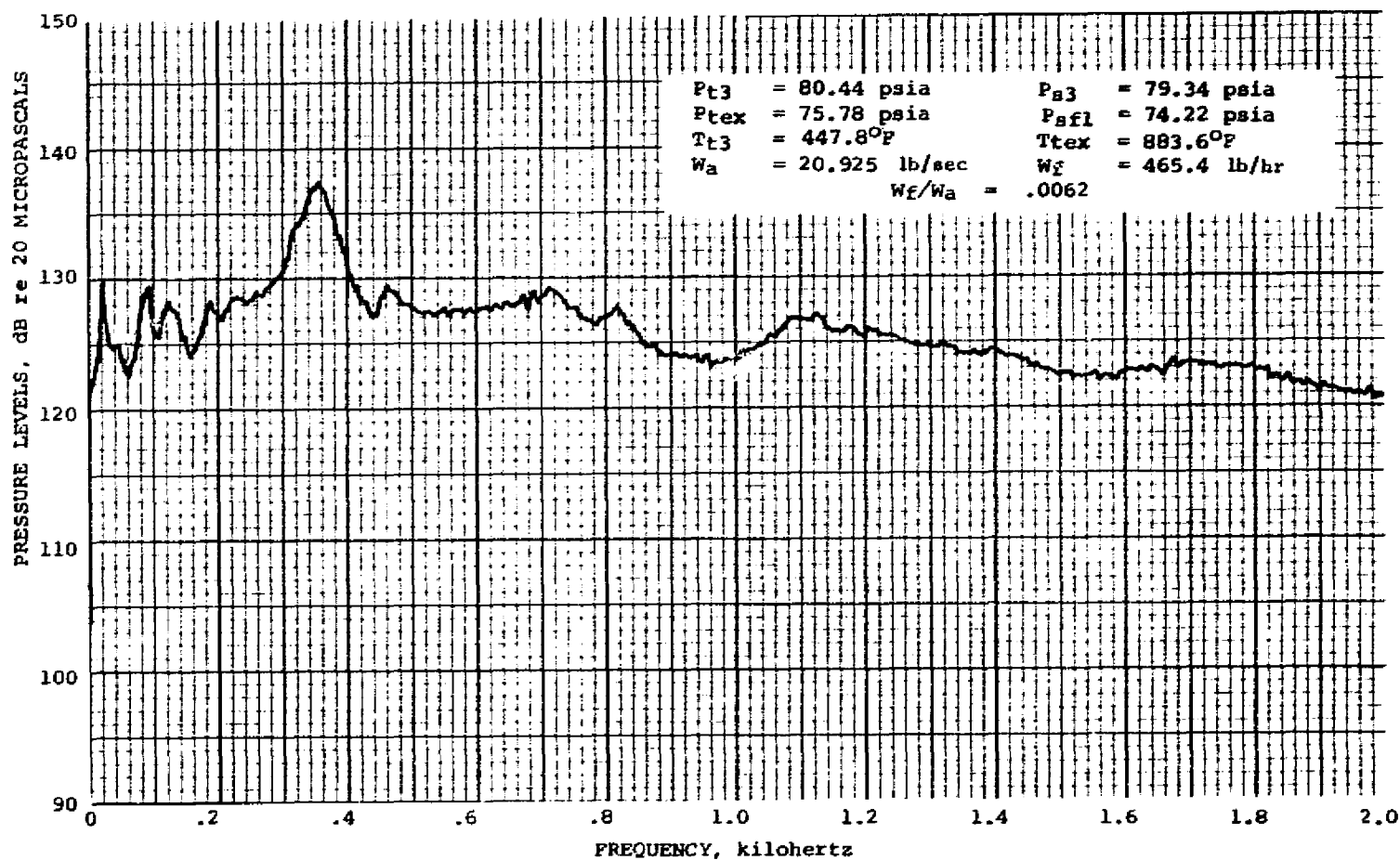
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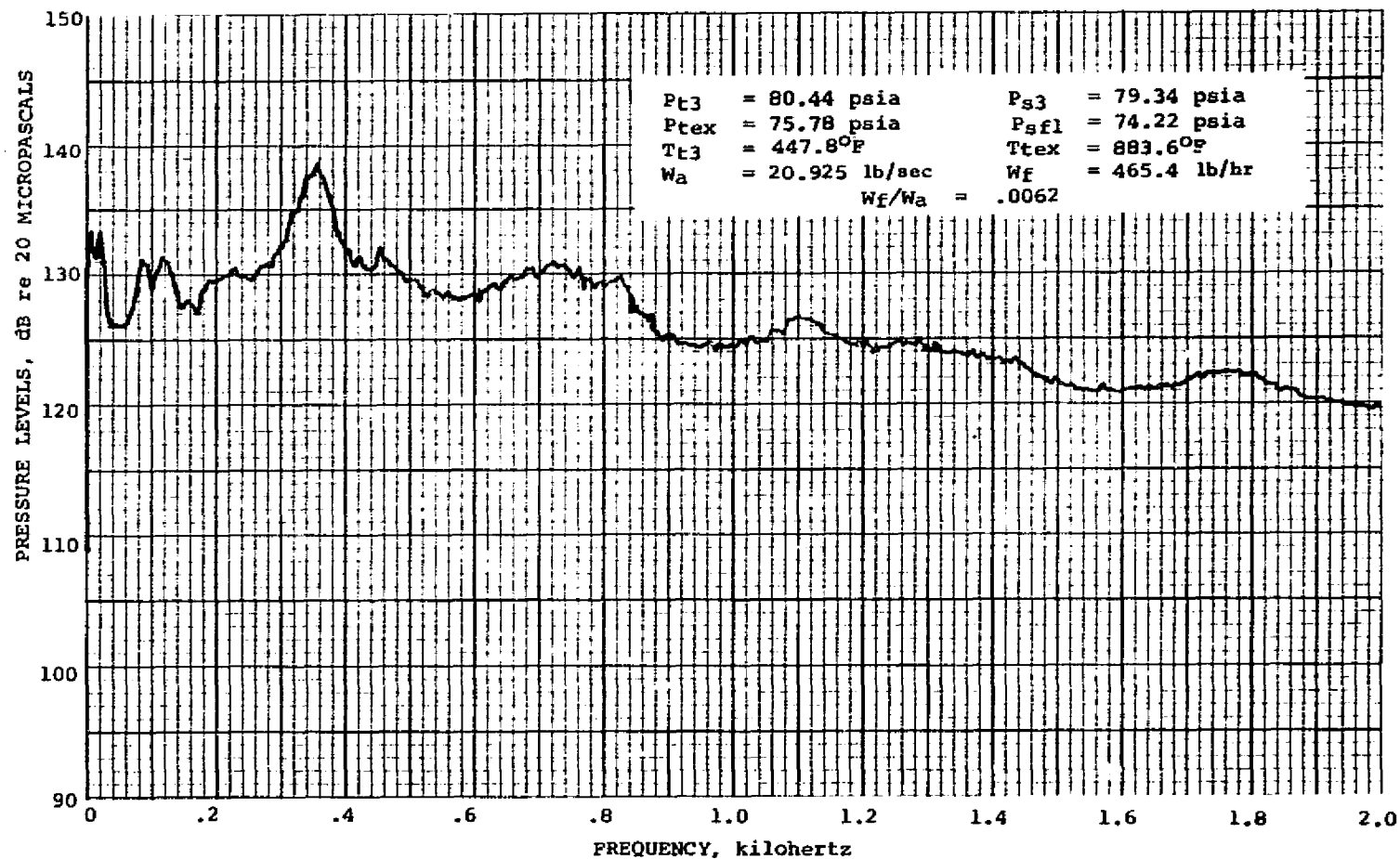
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 28



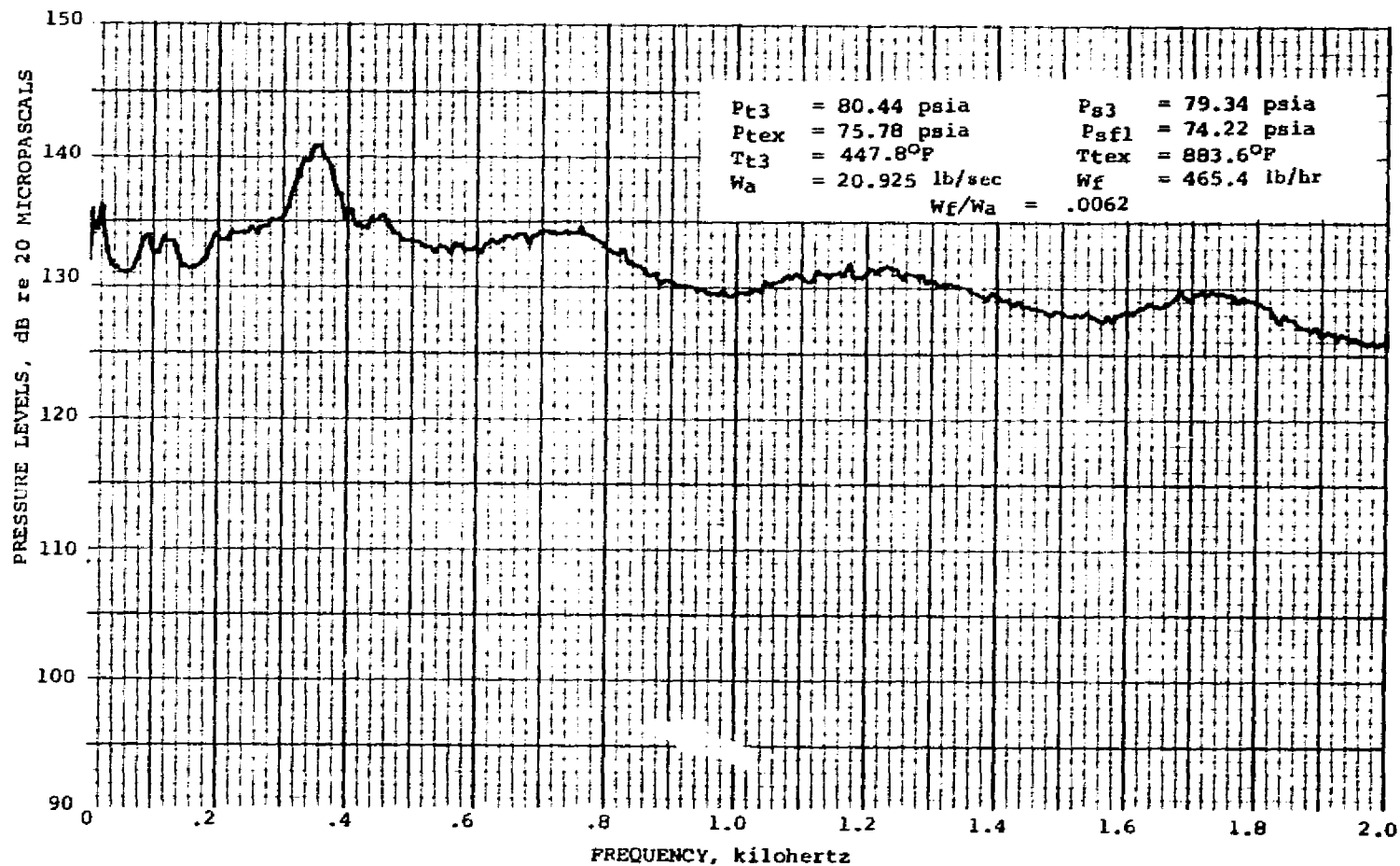
NARROW BAND SPECTRUM AT PROBE NUMBER 2 DURING RUN POINT NUMBER 28



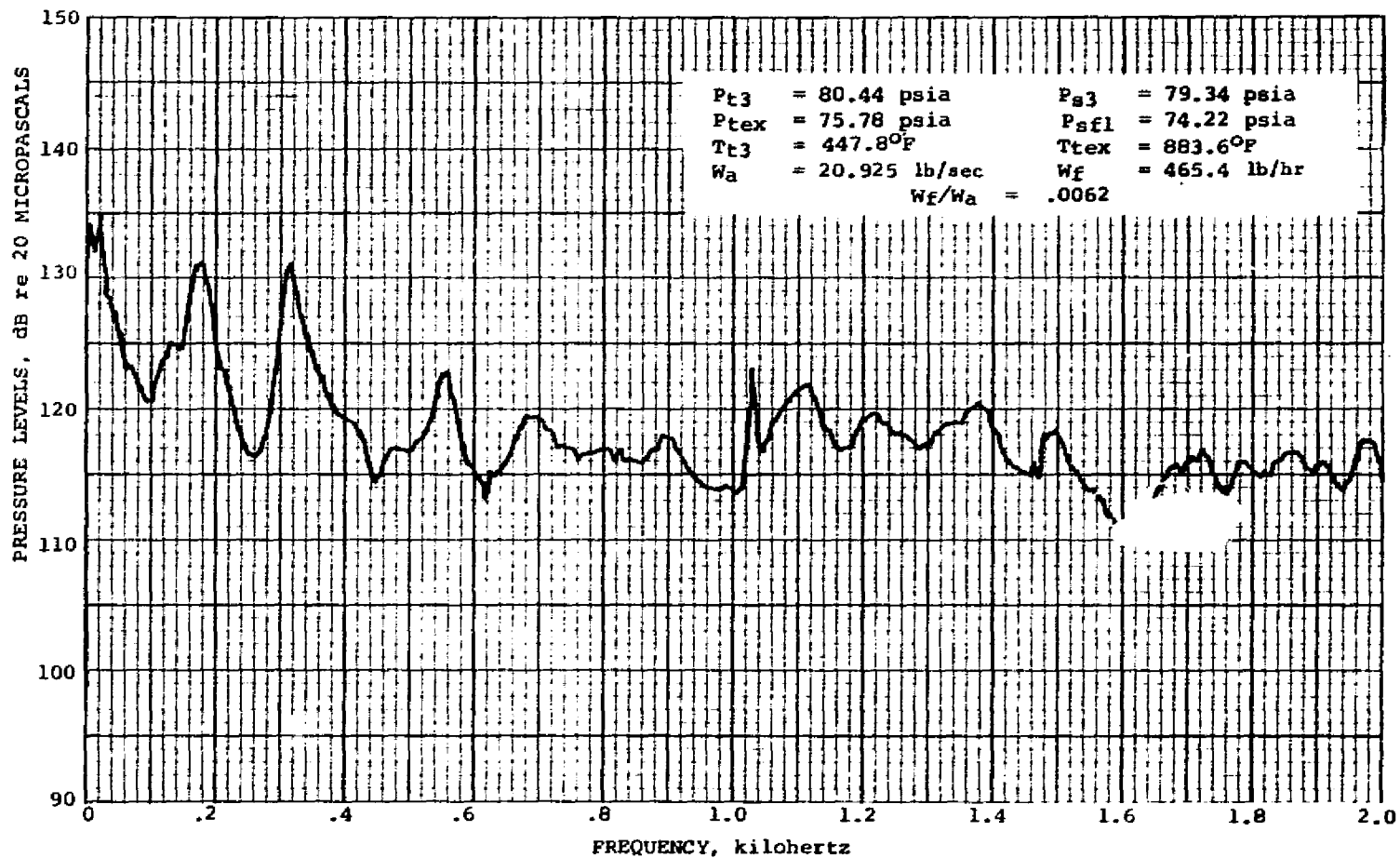
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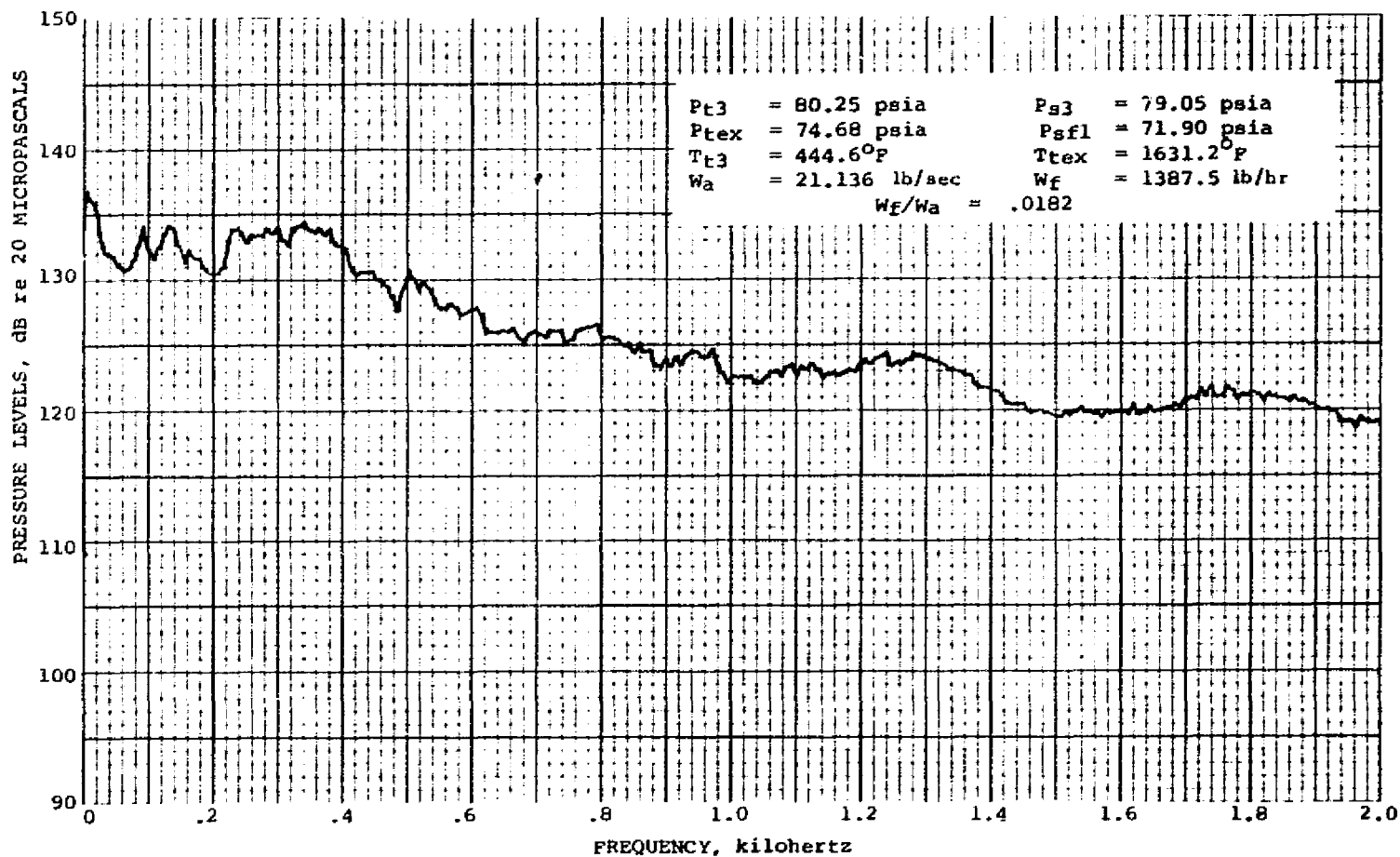
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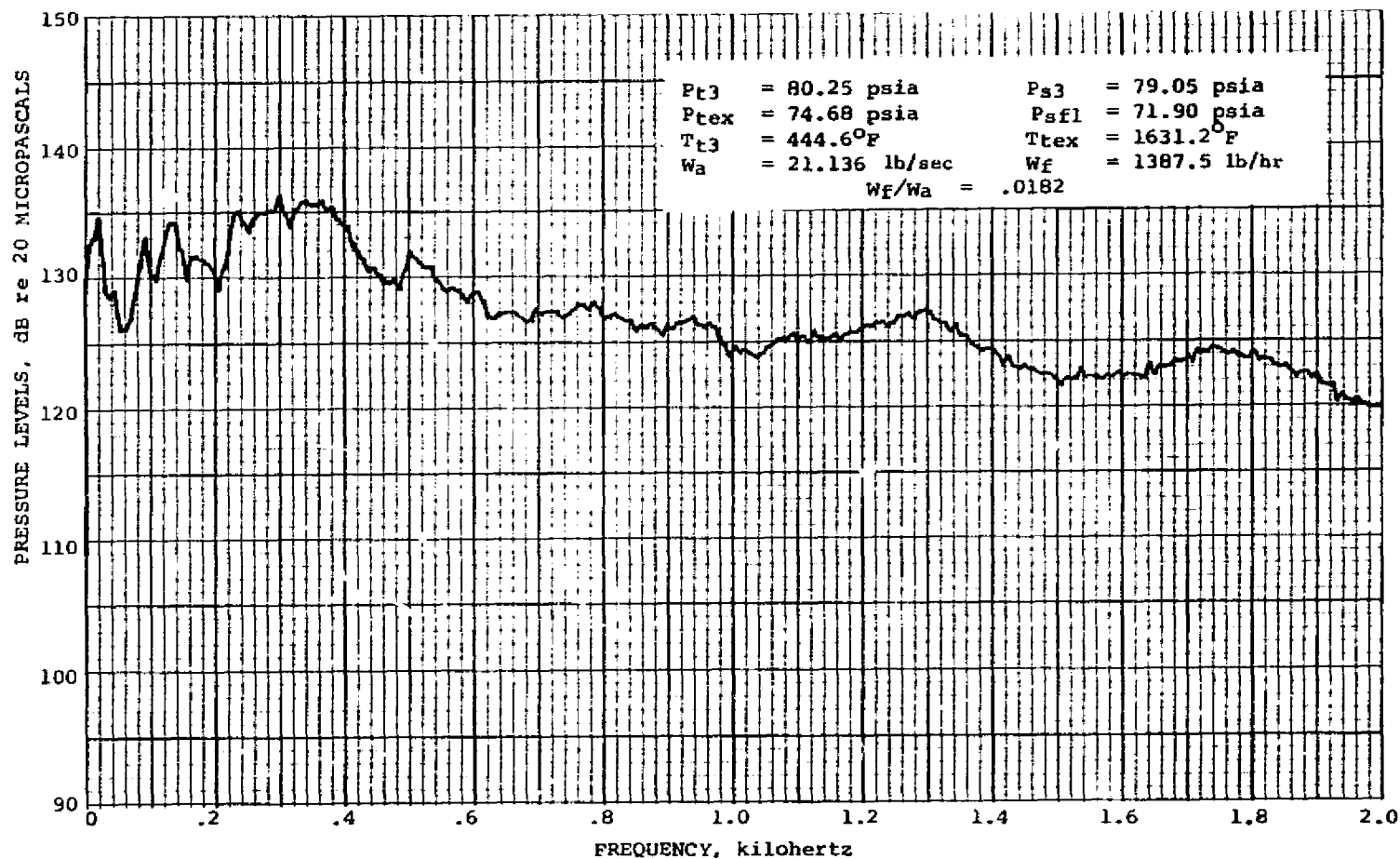
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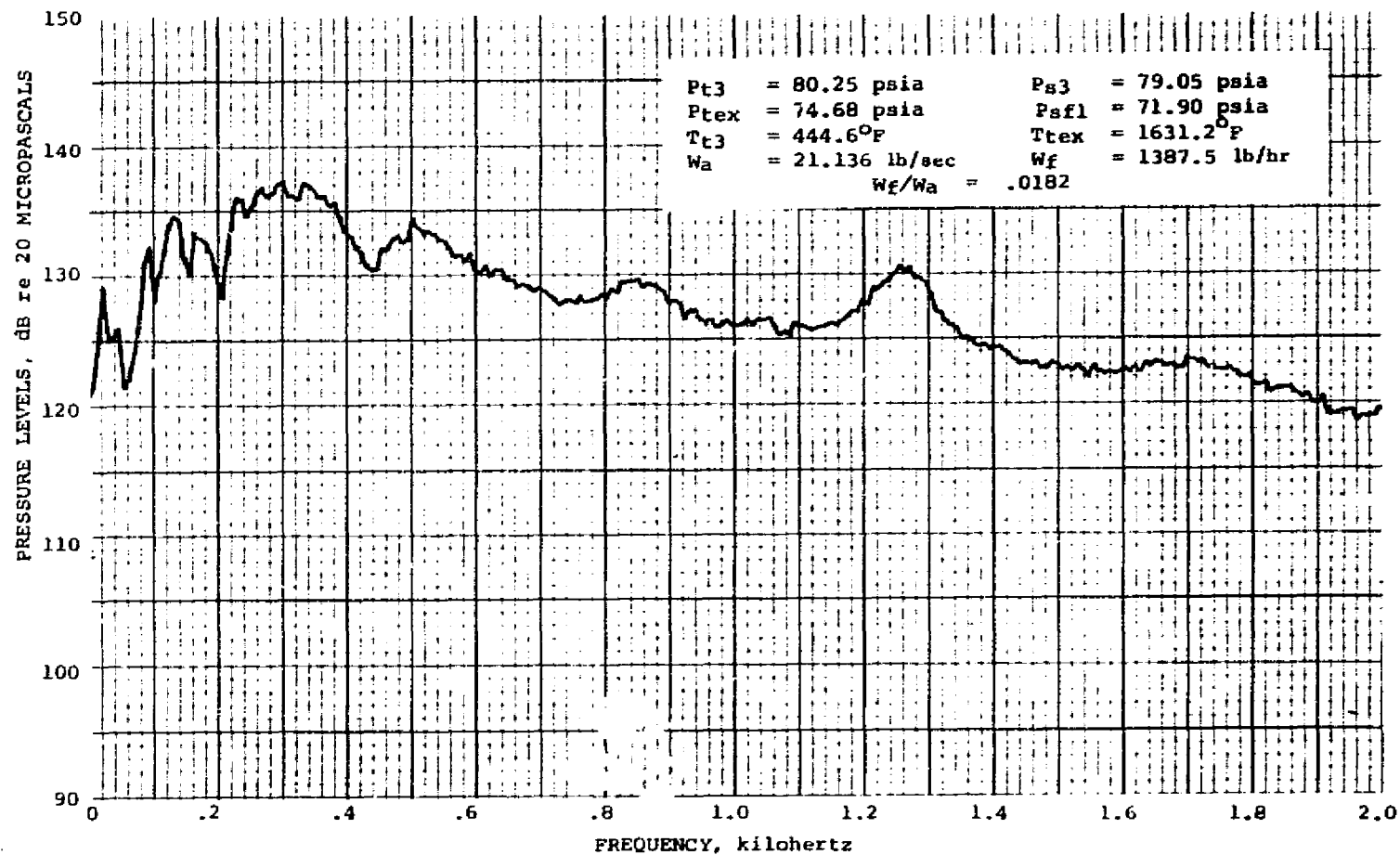
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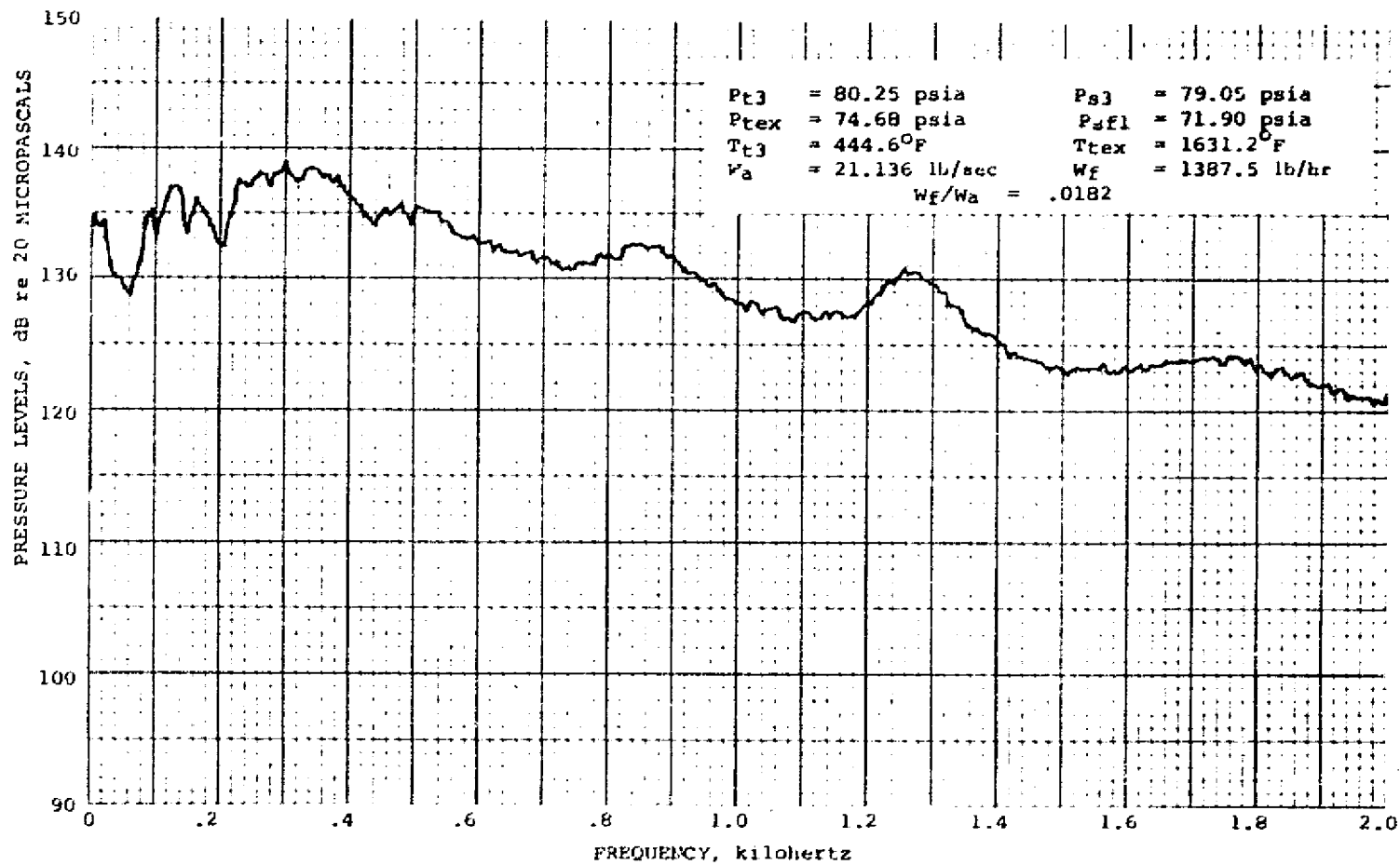
NARROW BAND SPECTRUM AT PROBE NUMBER 1 DURING RUN POINT NUMBER 29



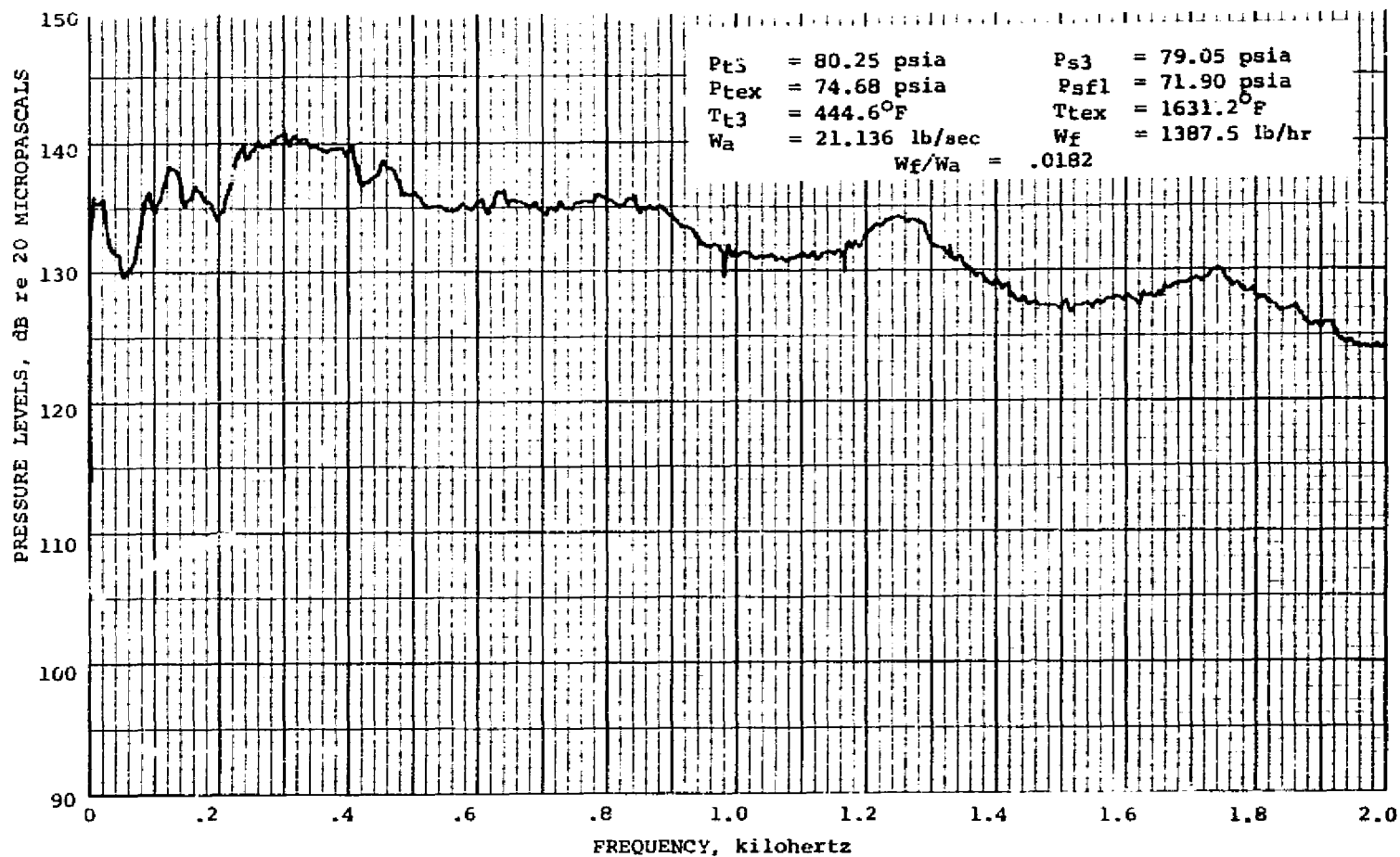
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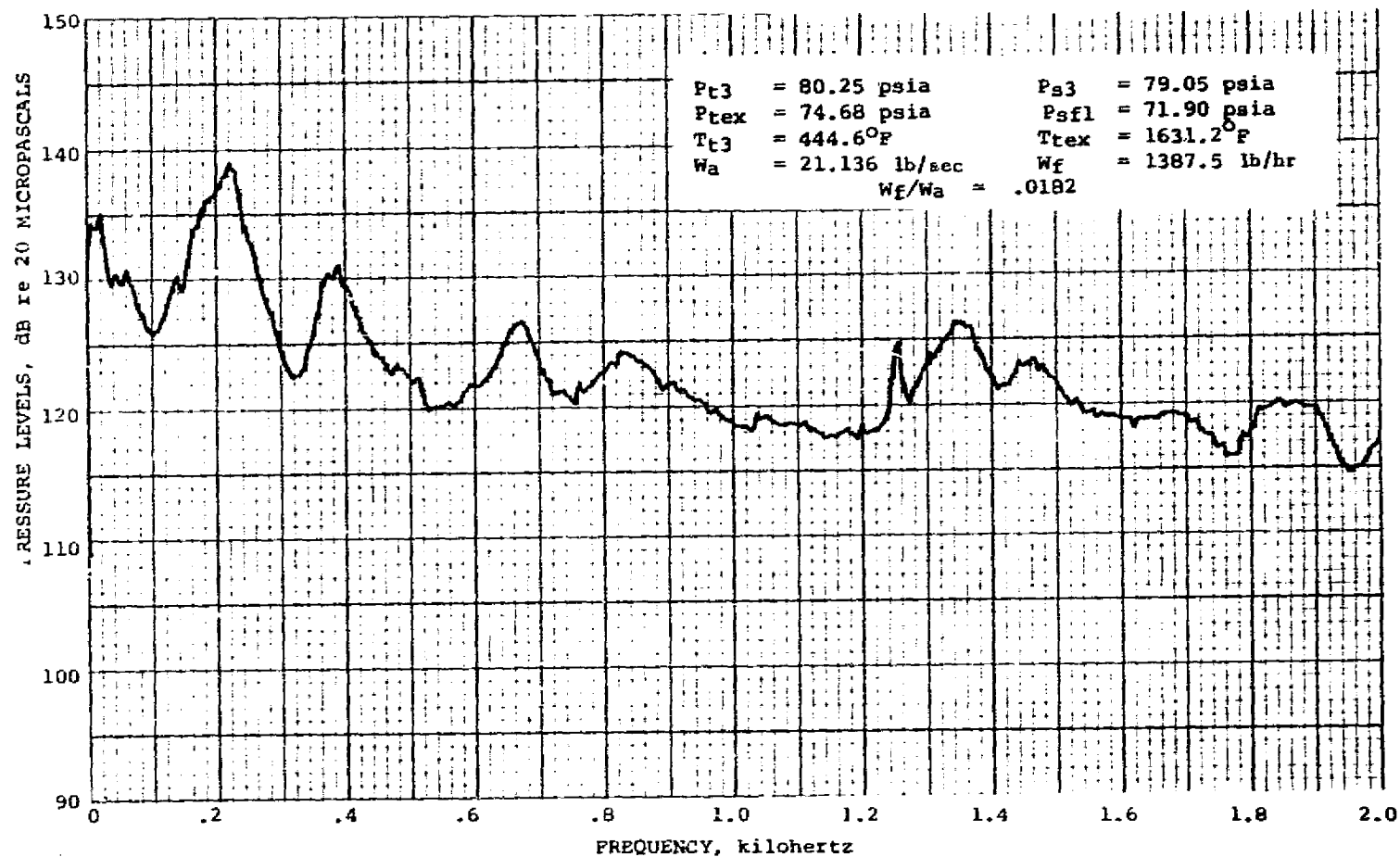
NARROW BAND SPECTRUM AT PROBE NUMBER 3 DURING RUN POINT NUMBER 29



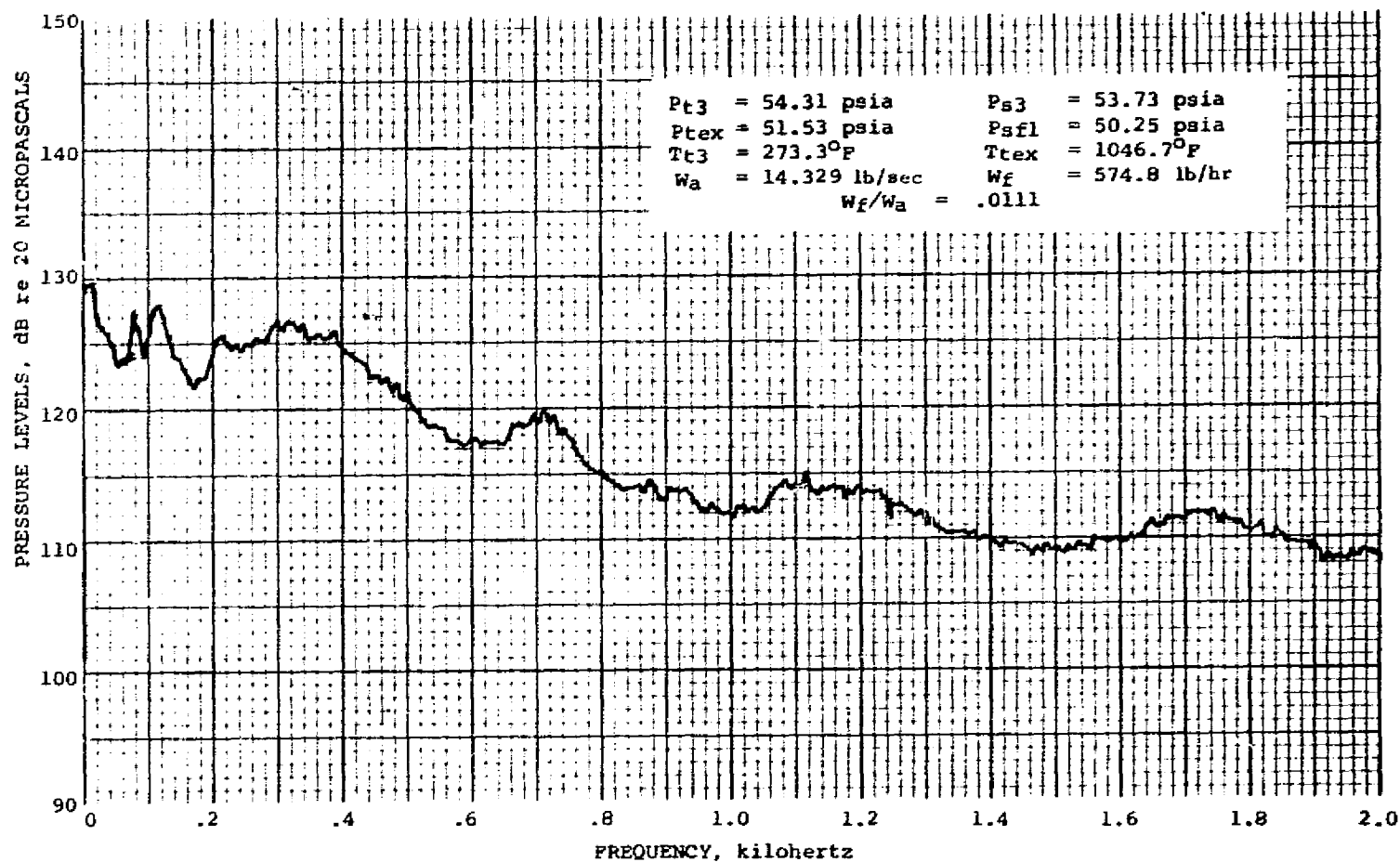
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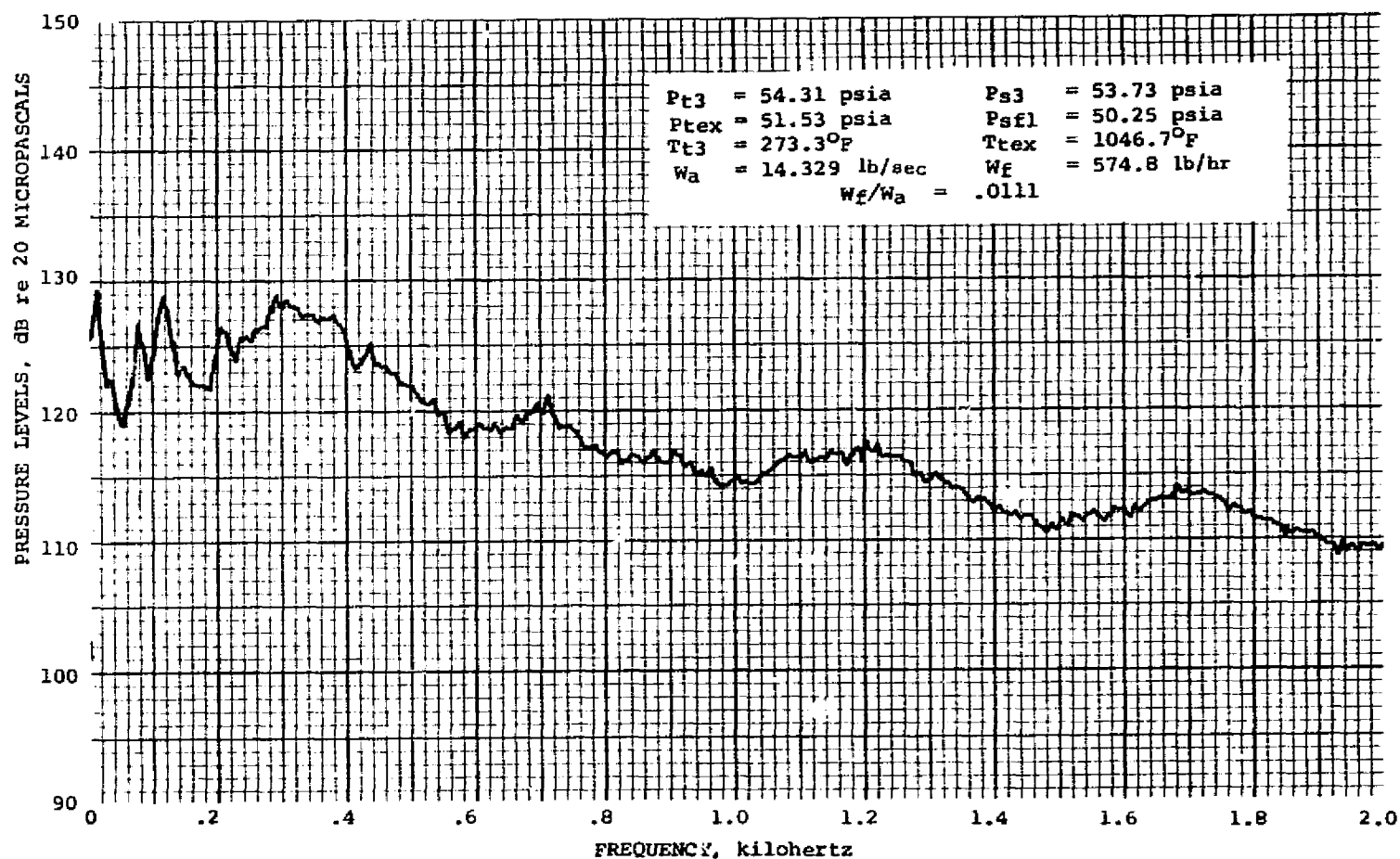
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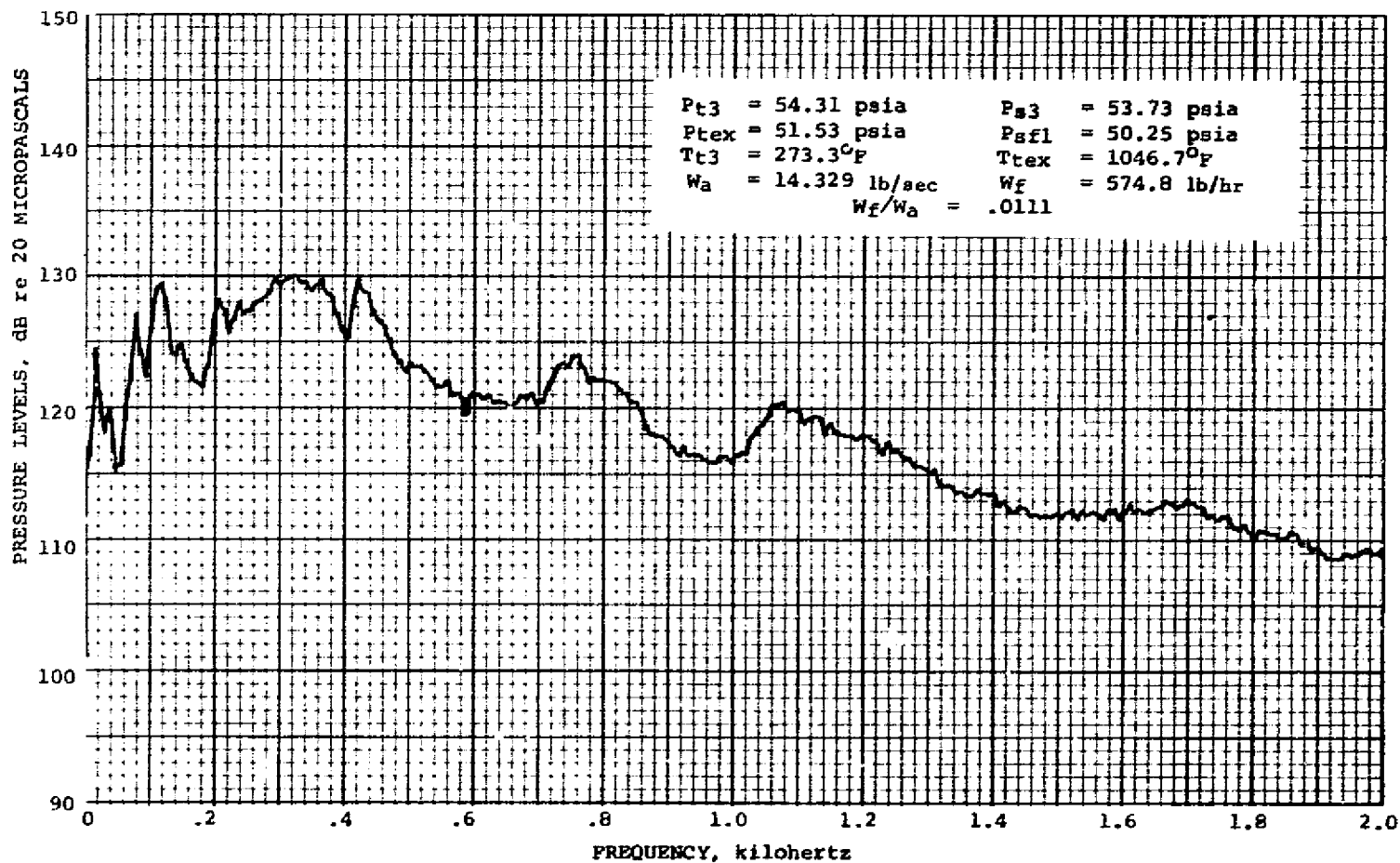
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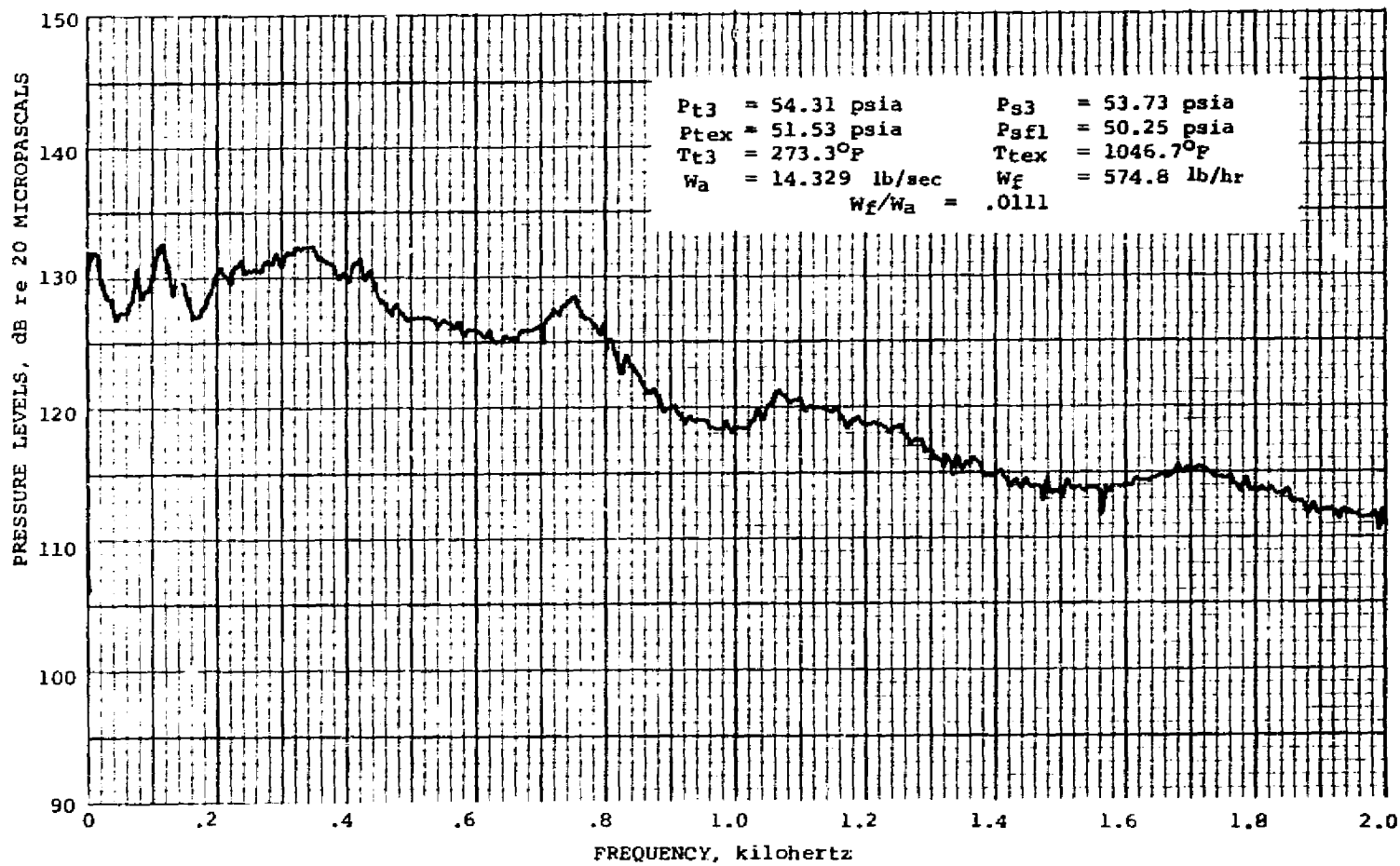
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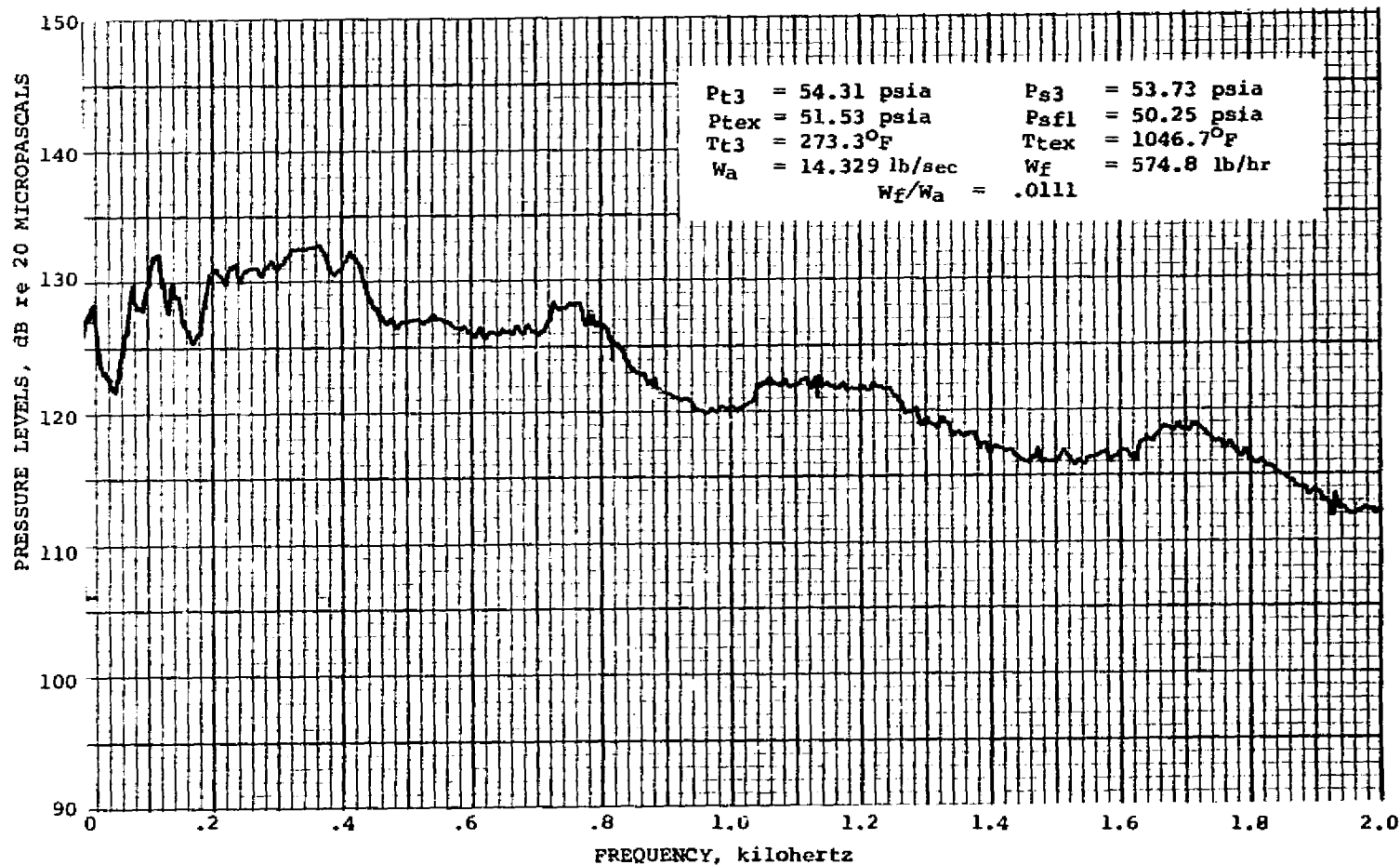
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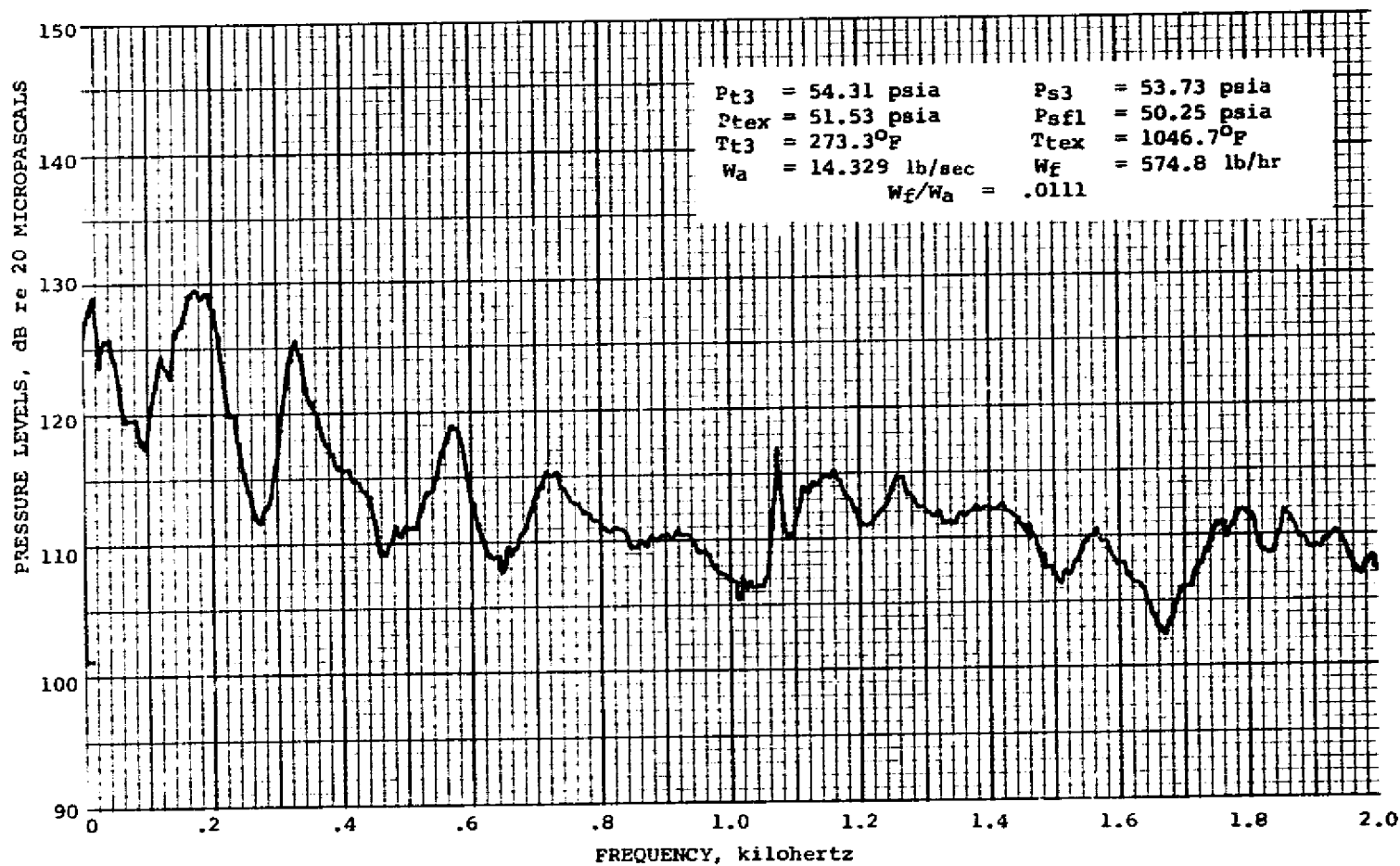
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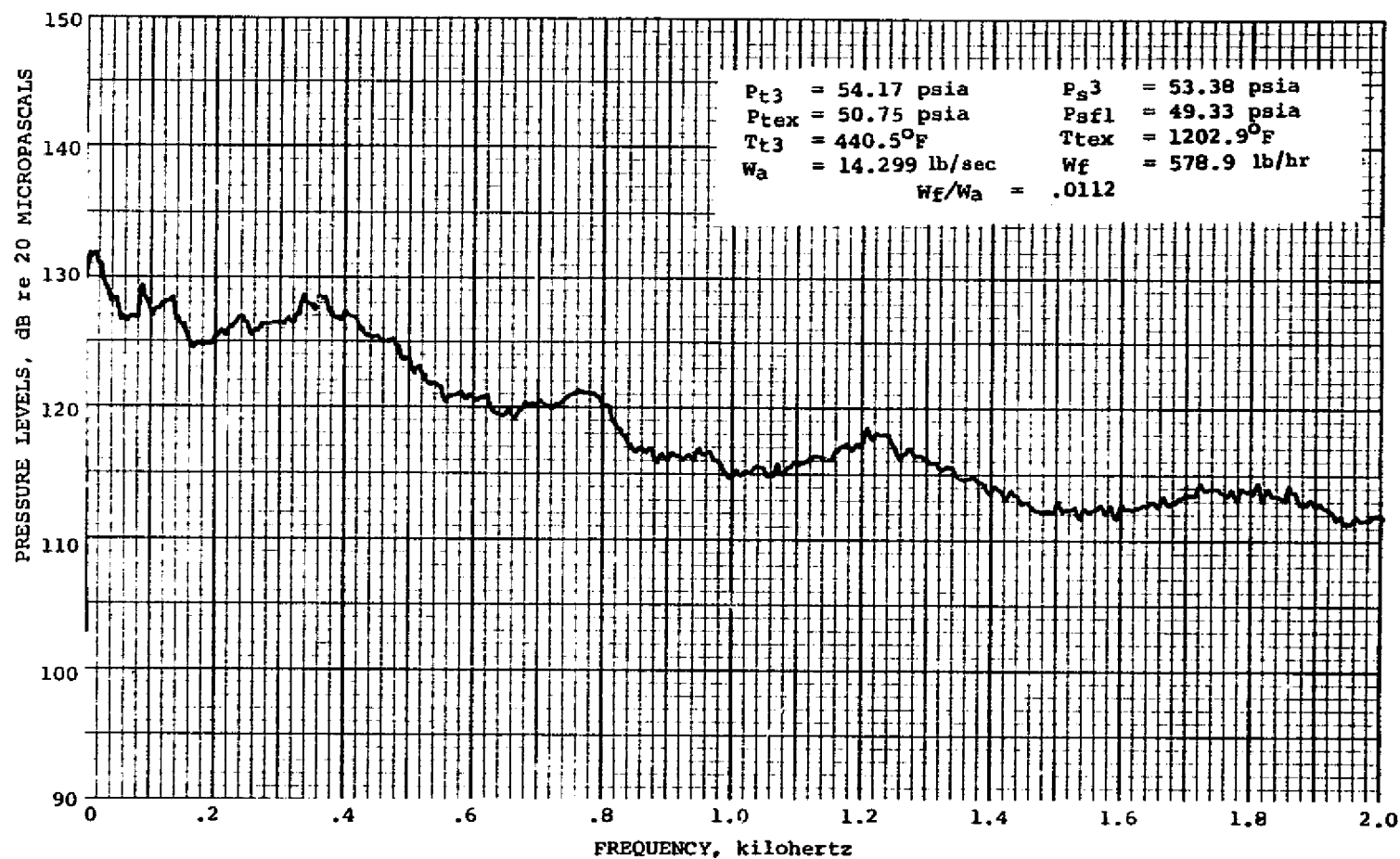
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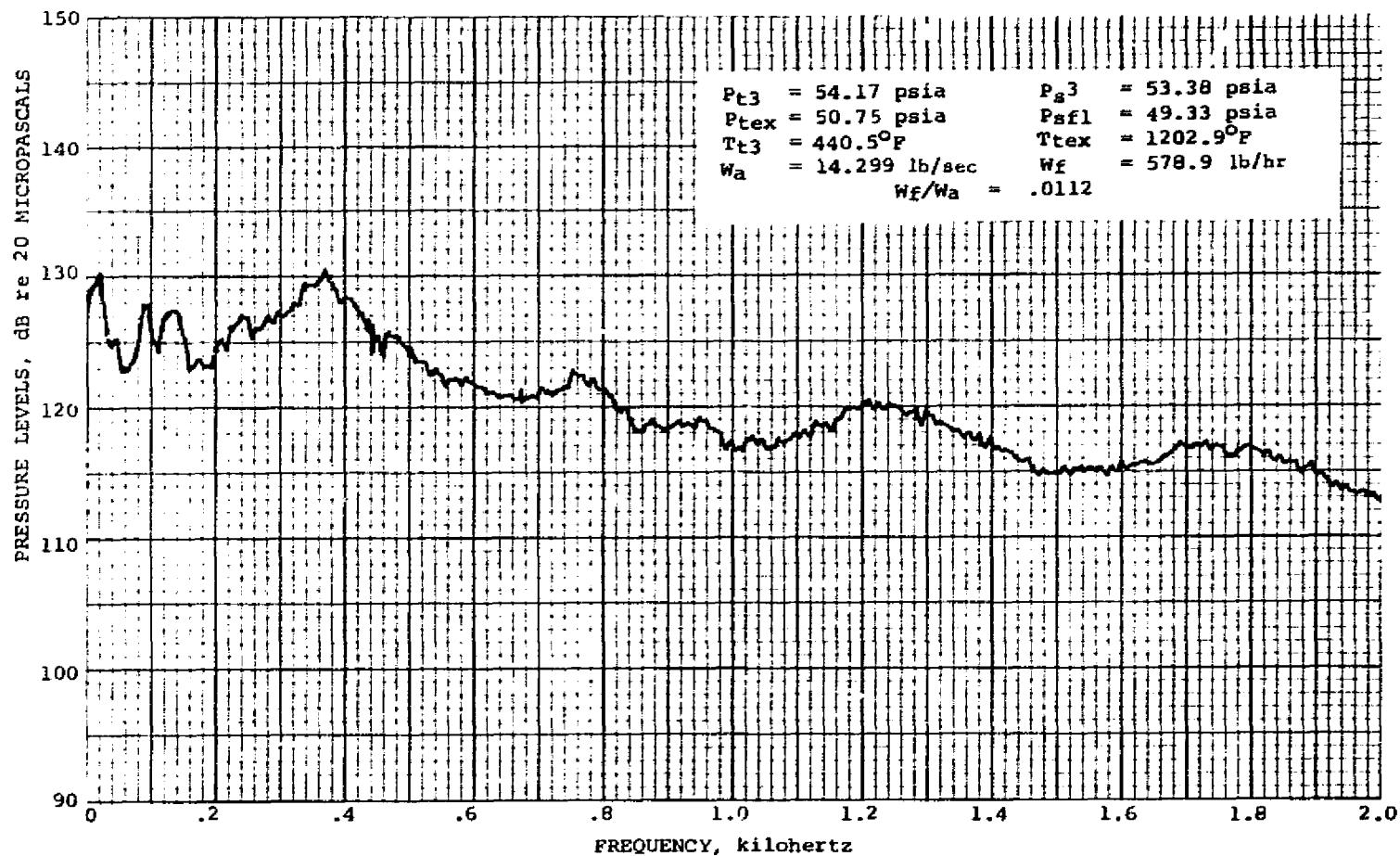
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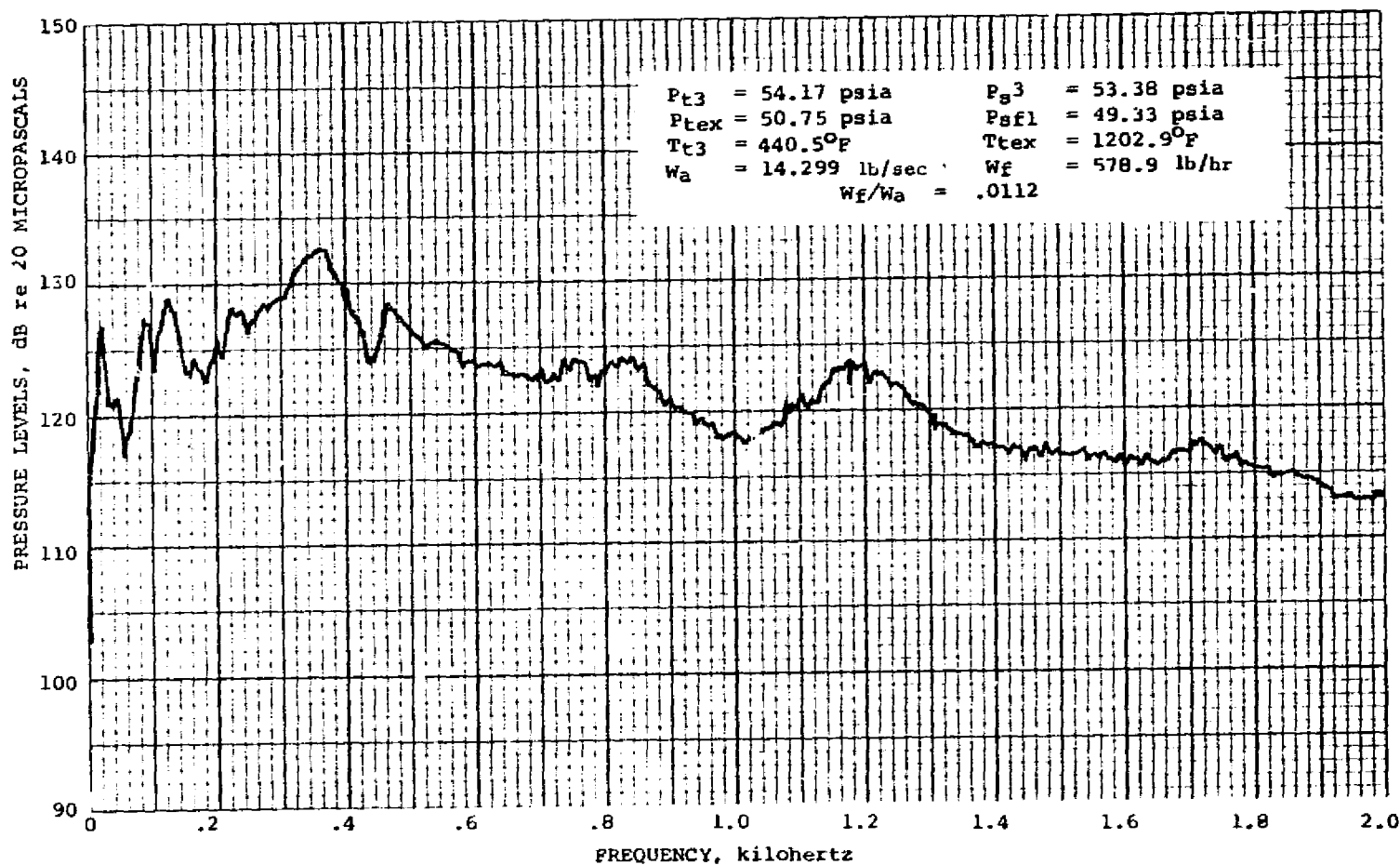
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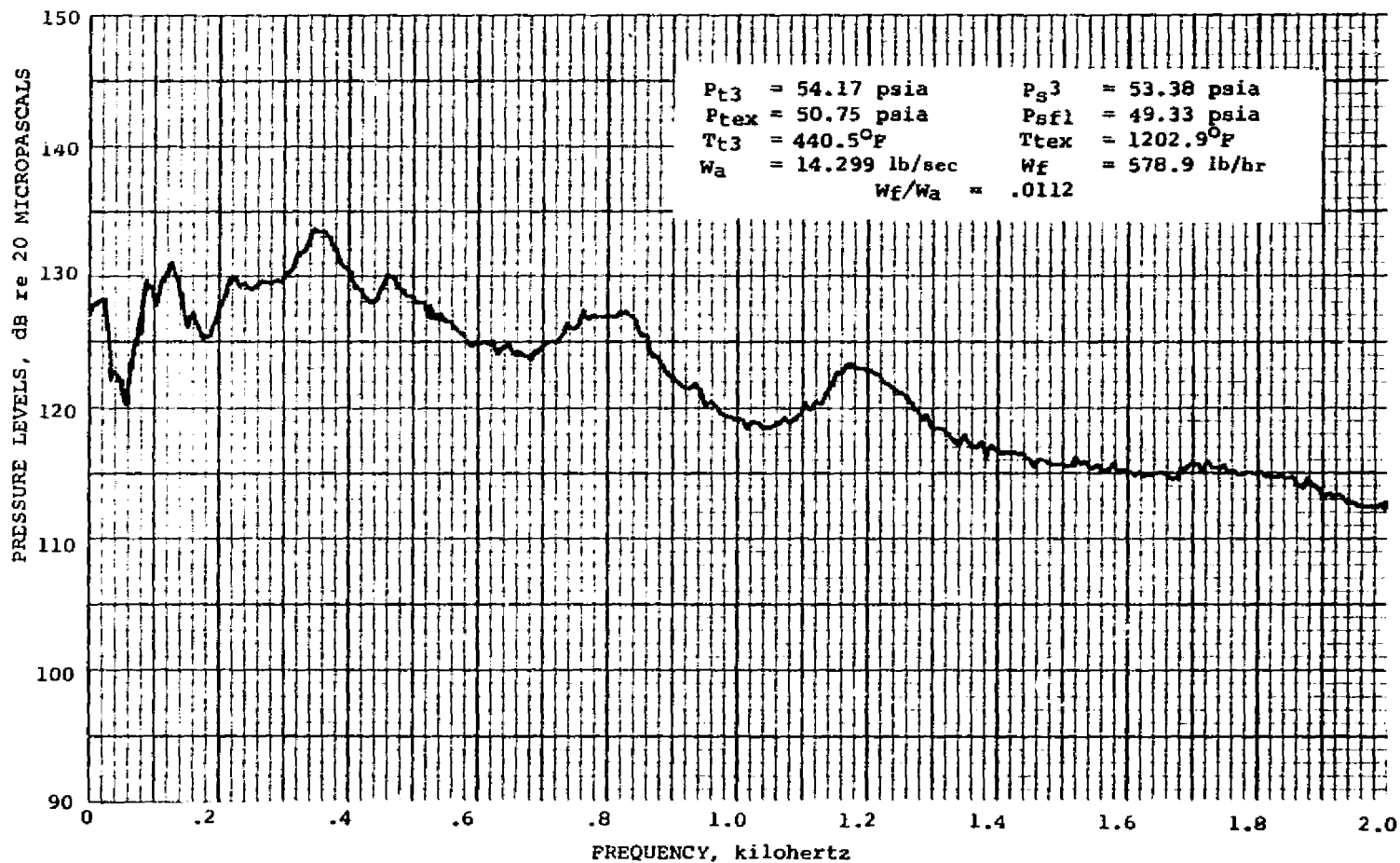
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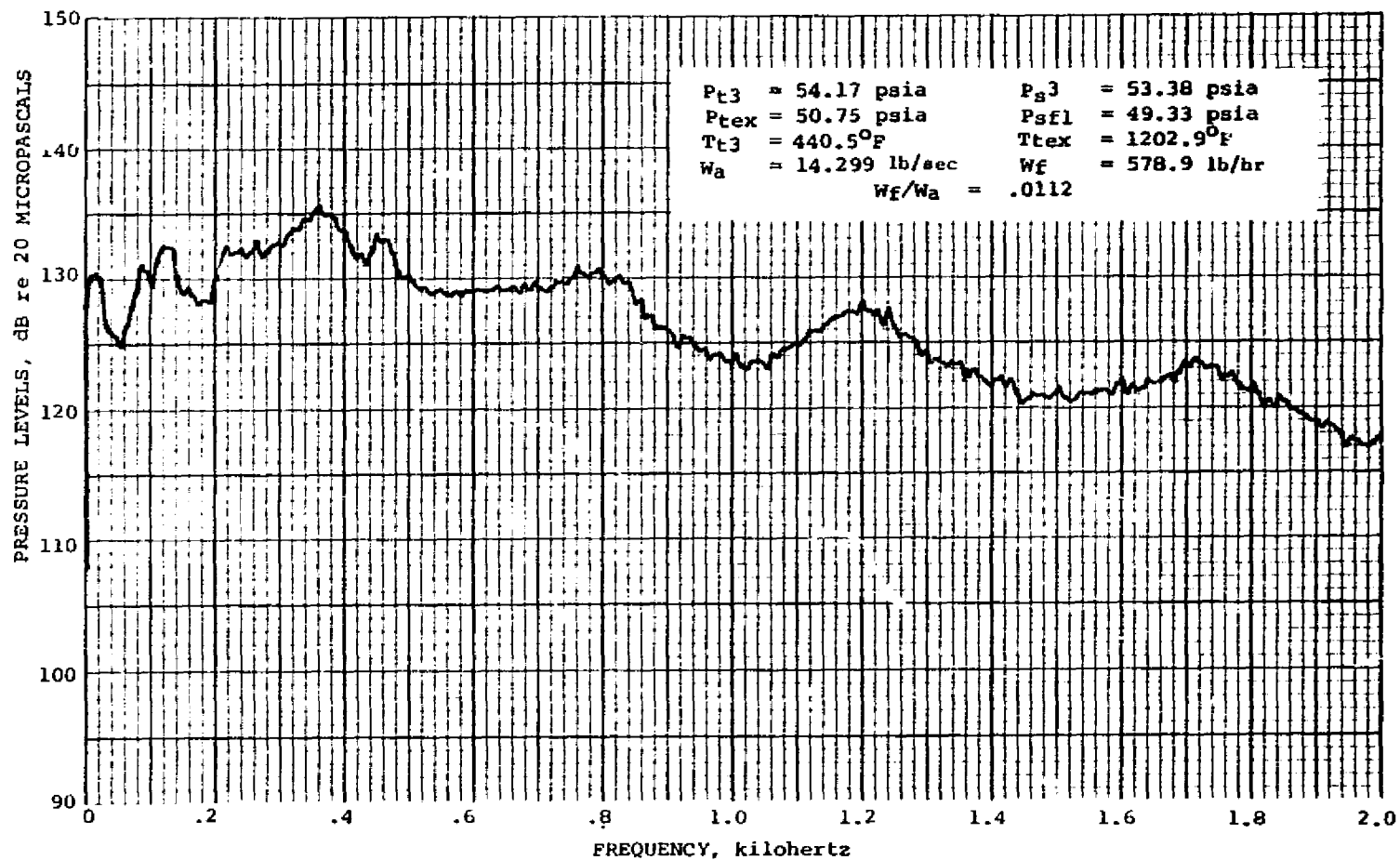
NARROW BAND SPECTRUM AT PROBE NUMBER 2 DURING RUN POINT NUMBER 11



NARROW BAND SPECTRUM AT PROBE NUMBER 3 DURING RUN POINT NUMBER 11



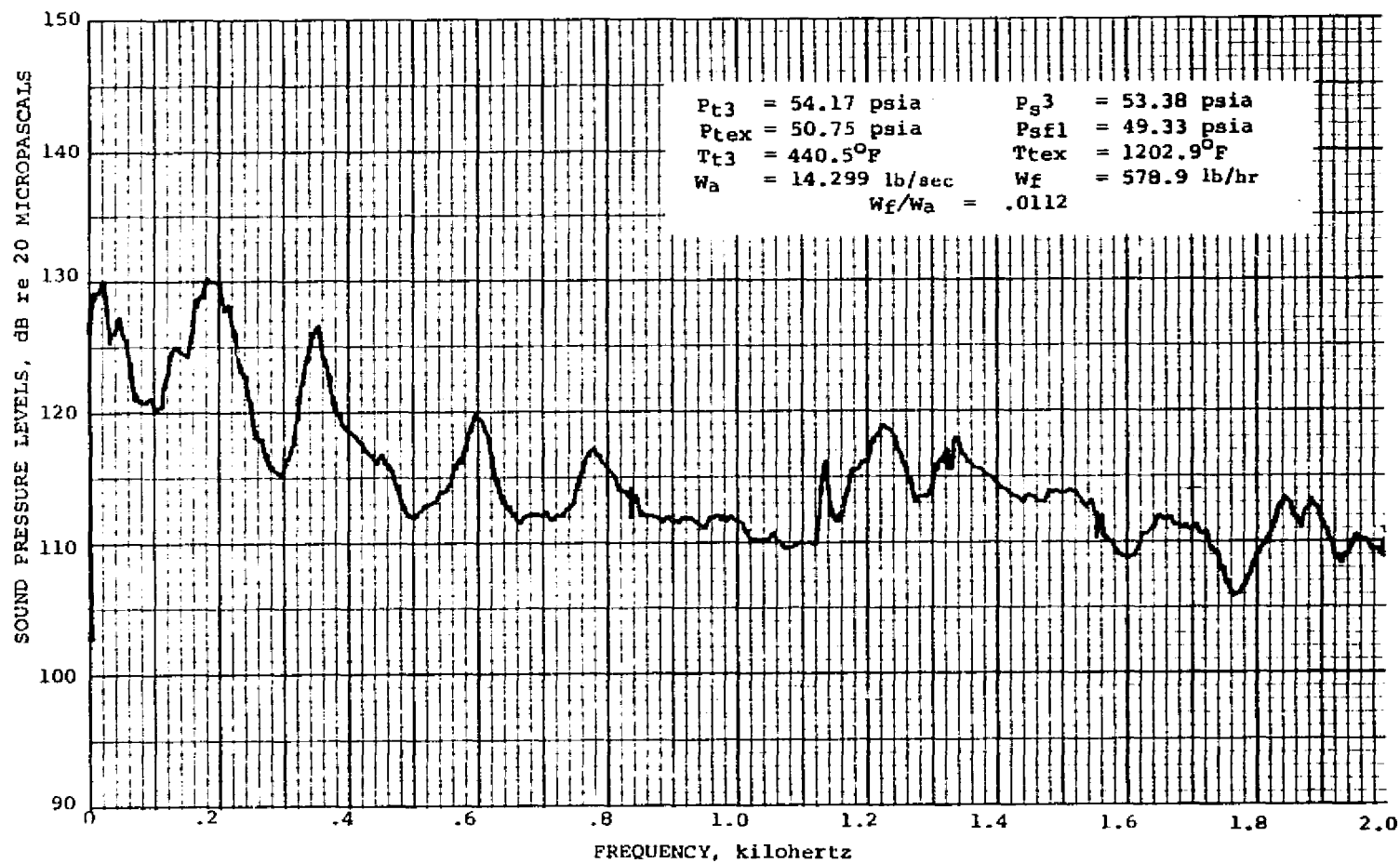
NARROW BAND SPECTRUM AT PROBE NUMBER 4 DURING RUN POINT NUMBER 11



NARROW BAND SPECTRUM AT PROBE NUMBER 5 DURING RUN POINT NUMBER 11

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DATE Aug 10 1978
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NARROW BAND SPECTRUM AT PROBE NUMBER 6 DURING RUN POINT NUMBER 11